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THE

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OF THE

HOUSE OF REPRESENTATIVES

FOR THE

SECOND SESSION OF THE FIFTY-SECOND CONGRESS.

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52D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { Ex. Doc. 1, Part 2.

REPORT

OF THE

SECRETARY OF WAR;

BEING PART OF

THE MESSAGE AND DOCUMENTS

COMMUNICATED TO THE

TWO HOUSES OF CONGRESS

AT THE

BEGINNING OF THE SECOND SESSION OF THE FIFTY-SECOND CONGRESS

IN FOUR VOLUMES.

VOLUME I.

WASHINGTON:
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1892.

REPORT

OF

THE SECRETARY OF WAR.

Mr. PRESIDENT:

I have the honor to submit, as required by law, the annual report of the operations of the War Department.

It is gratifying to be able to state that the Army has maintained throughout the year its high standard of discipline and efficiency. Looking to the future, and the possible necessity of rapidly transforming a large number of citizens into effective soldiers, it is a matter of vital importance that the regular Army, in organization and personnel, should represent as nearly as may be a perfect model.

INFANTRY REORGANIZATION.

Since the present organization of our infantry was adopted, many changes have taken place in the art of war, resulting, among other things, in a material modification of the form of infantry regiments. Our stationary condition in this respect has left us with an obsolete organization, the defects of which, however, have been so exhaustively discussed in former reports from this Department that they are only referred to in the present instance as a means of urgently renewing the recommendations of nearly all my predecessors in behalf of three-battalion infantry regiments. A carefully framed bill, embodying the essential features of the desired reorganization, without any additional expense, has passed the Senate, and is now pending in the House of Representatives. The enactment of this bill into a law would be of great advantage to the Army and to the nation.

ARTILLERY REORGANIZATION.

As a further means of perfecting the Army, the reorganization of the artillery arm has been recommended and urgently pressed upon Congress. Necessary provisions to this end are embodied in the bill

relating to infantry reorganization. All that now remains for the War Department to do in the premises is to represent the meritorious character of the proposed legislation and earnestly recommend it to the attentive consideration of the House of Representatives.

REVIVAL OF THE GRADE OF LIEUTENANT-GENERAL.

The interests of the nation demand that the administration of military affairs shall be attended with dignity and decorum. To this end it is necessary that the commanding general should be conspicuously superior in rank to all subordinates. Experience has shown that rank, as well as command, is essential to give proper effect to authority in any military organization of importance. Accordingly, it is recommended that the Lieutenant-Generalcy be revived as a permanent grade of Army rank.

The immediate effect of legislation in this behalf would, it is assumed, create a promotion at the head of the Army by the advancement of the Senior Major-General, who, by reason of brilliant achievements in war and long and distinguished services, is eminently entitled to such recognition. This view of the case, although appealing strongly to individual feelings, is regarded as incidental only to the main argument, which is advanced exclusively upon the broad basis of public expediency.

ENLISTED PERSONNEL OF THE ARMY.

The general conclusion, gathered from all sources, is to the effect that while the enlisted personnel of the Army is, as a whole, very much better than at any time previous, much remains to be accomplished in this connection before we can rest entirely satisfied.

Every possible effort has been made to secure the enlistment of desirable men. The recruiting service has been administered with exceptional vigor and success during the past two years; and the standard of qualifications has been raised until the test at recruiting rendezvous is so critical that only 28 per cent. of the applicants for enlistment were accepted during the fiscal year ending June 30, 1892. It seems that almost everything has been accomplished that is possible under existing laws. Notwithstanding all this, however, many men succeed in entering the Army whose character and antecedents are such as to render their presence detrimental to the service; and the complaint is general as to a scarcity of material for noncommissioned officers.

Improvement in administrative methods may correct some of these evils, but it is thought that the best remedy lies through a small increase in compensation. If good men are wanted for the Army they must be paid something near what wage earners receive in the ordinary pursuits of civil life. Under the pressure of national prosperity, representative men command good pay.

The Army, under favorable conditions, should be one of the most desirable *trades* of youth; and there can scarcely be a doubt that bright and adventurous young men would seek our colors in considerable numbers if it were generally understood that courage and merit would be suitably rewarded. Under present conditions there is scarcely any pecuniary benefit to attract a man to the ranks. Promotions to commissioned grades are necessarily few, and the difference between the pay of a private and a noncommissioned officer is hardly appreciable, when considered in the light of an inducement to enlistment. It is, therefore, recommended that at least the pay of all noncommissioned grades be increased to the extent of making promotion thereto the object of legitimate ambition, thereby inducing the enlistment of the very best material to compete for the advantages of promotion to the grade of both commissioned and noncommissioned officers. Considering that there are 1,884 sergeants of all grades and 1,614 corporals, it is apparent that the inducement should be ample enough to justify young men of character and capacity in indulging the expectation of ultimately securing adequate compensation and recognition.

DISTRIBUTION OF THE ARMY.

It is believed that our Indian wars are about at an end. In the march of population and civilization westward that which was so long known as the frontier has disappeared. The necessity of massing troops in the West no longer exists. Seventy per cent. of the Army is now located west of the Mississippi River.

The total number of posts now garrisoned by United States troops, not including arsenals and armories, is 96; of these 33 are located east of the Mississippi River, as follows:

Maine	1	Illinois	1
Massachusetts	1	Michigan	3
Rhode Island	1	Virginia	2
Connecticut	1	Kentucky	2
New York	13	Louisiana	1
Maryland	1	Florida	2
District of Columbia	1	Georgia	1
Ohio	1	Alabama	1

The remainder, 63, are west of the Mississippi River, as follows:

Minnesota	1	Wyoming	5
South Dakota	2	Indian Territory	1
North Dakota	3	Oklahoma Territory	2
Montana	5	Texas	9
Kansas	3	Arizona	6
Missouri	1	New Mexico	4
Nebraska	4	California	7
Colorado	1	Washington	5
Utah	2	Idaho	2

Five of these are regimental posts, and are located as follows: One in Illinois, one in Minnesota, one in Nebraska, one in Wyoming, and one in Utah. These five posts are, strictly speaking, regimental. There are posts, however, quite as important and as large which are not regimental posts because the commands are made up of parts of different regiments.

The question as to the proper policy that should govern the distribution and location of the Army presses for consideration and settlement. The tendency of distribution hitherto has been to abandon small and isolated posts and concentrate the troops in larger garrisons. This has been attended with good results, as troops can be more economically maintained in large than in small garrisons. It is suggested, therefore, that the small posts be gradually abandoned and that regimental posts be established in each of the larger States which are now without them. They should be located at or near the principal commercial centers, where transportation facilities are ample, and movements of both men and supplies may be rapidly and economically made. The Army could be maintained under these conditions much cheaper than ever before in its history. It is thought that the cities, near which such posts may be located, should be required by Congress to donate to the Government sufficient land, say 1,000 acres, in consideration of building and maintaining such posts in their immediate vicinity.

The Department last year favored legislation establishing a military post in Montana, one in Arkansas, and one in New Mexico, upon the condition that land be donated as above set forth. In addition to a decided saving in the expense of maintenance, other important results would follow such a redistribution of the Army in larger garrisons. There would be better and more uniform discipline, greater *esprit de corps*, and a positive improvement in instruction and military administration. Officers and men would have access to churches, schools,

libraries, and other advantages which are only to be found near large centers of population. Added to this, the presence of troops in the States would familiarize the people with the Army, lead them to better understand its operations, and, it is believed, foster a kindlier interest in it. The people of the States would feel an interest in maintaining such posts, which would also be of advantage in connection with the training and instruction of the National Guard, and would assist its members to a better understanding of their duties, should the occasion arise for its temporary employment as a national force.

THE DIVISION OF MILITARY INFORMATION.

As originally organized, the Division of Military Information in the Adjutant-General's Office only contemplated the procurement and arrangement of intelligence about military matters from abroad. To this end Army officers were accredited, as military attachés, at several European capitals. The intelligence gathered was of professional and scientific value, but it pertained exclusively to foreign armies, and it was felt that the functions of the division should be extended to embrace all unclassified military information relating as well to the United States.

Accordingly, in March, 1892, a reorganization of the division was ordered,* so that the scheme now includes not only the collection of foreign intelligence, but is intended to accomplish the compilation and scientific arrangement of information relating to the military resources of the nation, with a view to facilitate their concentration and utilization in case of emergency.

It is in contemplation to establish and properly expand a branch of the division to be devoted exclusively to topography and maps, with a view to acquiring the most reliable books, maps, plans and data relating to the topography and geography, not only of our own country, but of the world. The relative importance attached to this branch of military information may be illustrated by reference to the fact that 75,000 maps alone are reported as on deposit in the division of information of a single European war department.

Another important function embodies the idea of publishing and distributing text-books and monographs relating to the art of war, thereby insuring the dissemination of useful information on military subjects throughout all branches of the military establishment, including the National Guard.

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*See G. O. 23, A. G. O., 1892.

In connection with the collection and arrangement of the mass of military information herein described, plans will be carefully formulated and deposited in the archives of the division, intended to anticipate as far as possible contingencies that may arise in case the nation should be involved in war.

Another purpose had in view in enlarging the duties of this division was to bring the National Guard into better accord with this Department, and through it with the regular Army; to increase its numbers, to improve its efficiency, and, in general, to aid in making it such a military force as the United States has a right to expect and require from its citizens. Gratifying results have already been accomplished in this direction, and it is expected that the active interest manifested by the Department will have the effect of stimulating and encouraging the State authorities, and thus lead to a general improvement in instruction, discipline, and equipment of the militia.

But notwithstanding the satisfactory reports in regard to particular matters, the scope and plan of the division, regarded as a unit, is so comprehensive that years of sustained effort will be essential to the attainment of complete results. The importance of the work will no doubt inspire the best efforts of all connected therewith.

SERVICE CORPS.

The excellent results following the organization of a hospital corps point to the desirability of a suitable corps of enlisted men for general service, especially in the Subsistence and Quartermaster's departments. This would return to the ranks a large number of men now necessarily withdrawn for special or extra duty. Authority for enlisting a limited number of general-service men is therefore recommended.

MILITARY ACADEMY AT WEST POINT.

The high standing of the Military Academy at West Point has been maintained. The reports of the Board of Visitors and of the Superintendent show marked advancement and speak well of the condition and management of the institution. Its capacity is not overtaxed. Vacancies in the list of cadets constantly exist, which it is important should be kept full. It is recommended that the President be given authority to appoint ten cadets-at-large each year, as was authorized by law prior to June 11, 1878. It is probable that with this increase

there will still be vacancies and that the number of graduates will not exceed seventy-five per annum. Such an enactment would result in a desirable increase in the corps of cadets, and would operate almost exclusively in behalf of officers of the Army and Navy, and civil officials, who, by a long absence in the public service, find it difficult to secure recognition for their sons in their home districts. The attention of Representatives is called to the provision of law requiring nominations to be made a year in advance. Vacancies frequently exist by reason of neglect to nominate promptly. The principal examination now takes place March 1 instead of in June, as heretofore. It is due to the Government, as well as the young men selected, that they should have a few months of preparation before the March examination.

The recommendation of the Superintendent that the senior assistant in the departments of law and ordnance shall be placed on the same footing as to pay and emoluments as those of other departments of the institution is concurred in. There seems to be no good reason why these two important departments should not have the same privileges as the others.

The board of trustees, appointed in accordance with the act of June 23, 1892, in connection with the bequest of the late General Cullum for a Memorial Hall at West Point, has organized by selecting the Superintendent of the Academy as president and Prof. James Mercur as secretary. It is believed that under its supervision a hall will be erected which will be a fitting monument to the memory of the gallant soldier and distinguished scientist to whom the Military Academy is so much indebted.

The battle monument to be erected at West Point by private subscription in memory of the officers and men of the regular Army who were killed or who died of wounds received in action during the War of the Rebellion has been commenced, and its early completion is anticipated.

POST-GRADUATE SCHOOLS.

On the 7th of December, 1796, the first President, in an address to Congress, declared that—

> In proportion as the observance of pacific maxims might exempt a nation from the necessity of practicing the rules of the military art, ought to be its care in preserving and transmitting, by proper establishments, the knowledge of that art.

For this purpose he recommended the establishment of a military academy.

In accordance with these views such a school was in fact located at West Point a few years subsequently. For many years this admirable institution subserved all essential purposes, and alone kept alive a scientific knowledge of the higher branches of the profession of arms. The art of war, however, by process of never-ceasing natural expansion, has become so comprehensive and complicated that it is now impossible to include all its branches in a single curriculum. In order, therefore, to insure in the future, as in the past, the services of a small number of thoroughly educated officers, it has been found necessary to supplement the Military Academy by certain post-graduate schools devoted to the progressive development of commissioned officers by means of special instruction confined exclusively to the functions for which they are respectively commissioned.

THE ARTILLERY SCHOOL.

The artillery, being a special arm of exclusively technical requirements, was the first of the combatant arms to feel the necessity of a wider scope of study than is possible in the time allowed at the Military Academy. Accordingly a school devoted to its interests was organized at Fort Monroe, Va., in 1867. During the intervening years the evolution of this institution has been progressive in a marked degree, and in its present form it may be regarded as fulfilling in an exemplary manner all essential requirements of such an establishment. The curriculum embraces carefully prepared courses in artillery, ballistics, electricity, chemistry, explosives, and practical military exercises; and also includes steam and mechanism, engineering, military science, and photography.

It is obvious that this system of instruction, which is highly appreciated and conscientiously followed by the student officers, not only prepares a certain number of young men for promotion in their respective regiments, but insures intelligent handling of our present and future artillery armament.

THE INFANTRY AND CAVALRY SCHOOL.

In consequence of the expanding necessities of the other combatant arms, a school for infantry and cavalry officers was founded at Fort Leavenworth, Kans., in 1881. Considering the slow growth usually attending an educational institution, the development of this school has been remarkable and is exceedingly gratifying. It has already as-

sumed the appearance and form of a war academy, as may be seen by reference to its curriculum, which embraces courses in strategy, theoretical and applied tactics, field fortification, engineering, surveying, topography, and hippology, besides limited courses in some seven other subjects.

The experimental period has been successfully passed, all primary features have been eliminated, and in the near future it will be safe to describe the Infantry and Cavalry School as a war college of the highest character.

THE SCHOOL FOR DRILL AND PRACTICE FOR CAVALRY AND LIGHT ARTILLERY.

Congress, by an act approved January 29, 1887, authorized and directed the establishment upon the Military Reservation at Fort Riley, Kans., of a permanent school of instruction for drill and practice for the Cavalry and Light Artillery of the Army. With a view to fully accomplishing the purpose, generous appropriations have been made from year to year to enlarge the post, and in consequence of active construction the formal organization of the school was necessarily deferred until the present year, when orders were issued formulating specific regulations therefor.

It is intended that the command under instruction shall consist of one regiment of cavalry or its equivalent, and such light batteries, not exceeding five, as may be available. The instruction will be essentially practical, and will include drill, practice firing, stable management, training of horses, and especially the combined operations of cavalry and light artillery.

ENGINEER SCHOOL.

In addition to the foregoing establishments devoted exclusively to the interests of the line of the Army, the engineer school at Willet's Point provides a two and one-half years' course where young officers of the Engineer Corps can continue their studies, especially those which pertain especially to the engineer duties of the Army. The studies include military engineering, field astronomy, military photography, theoretical and practical instruction in the use of torpedoes and submarine mines for defensive purposes. The advantages of this school are also extended to such artillery, cavalry, and infantry officers as may be detailed to receive it, thus fitting them to render important aid in the defense of harbors in the case of emergency.

NECESSITIES OF ARTILLERY AND INFANTRY AND CAVALRY SCHOOLS.

The only serious obstacle to the rapid development of the schools at Forts Monroe and Leavenworth, to their full limit of usefulness, arises from a want of funds to conduct the exclusively scholastic work. The general administration is precisely the same as at Army posts, and all military necessities are fully supplied from regular appropriations through the several branches of this Department. There is no adequate provision, however, for the formation of libraries and museums, or for the procurement of text books, mathematical instruments, and other apparatus necessary for the illustration of technical and scientific subjects. It is hoped that full knowledge of the important work being accomplished will induce appropriations sufficient to produce the best results in behalf of the interests of the United States.

NATIONAL HOME FOR DISABLED VOLUNTEER SOLDIERS.

The act, approved March 3, 1891, making appropriations for the support of the National Home for Disabled Volunteer Soldiers, contained the following clause:

Provided, That the accounts relating to the expenditure of said sums, as also all receipts by said Home, from whatever source, shall, in addition to the supervisions now provided for, be returned to and supervised by the Secretary of War.

No provision has yet been made for the necessary clerical force to fully accomplish the purposes of the statute. Under the present procedure the accounts are accompanied by an abstract setting forth the disbursements under various heads, upon which the action of the Secretary of War is noted, and the accounts transmitted to the proper accounting officers of the Treasury.

If the purpose of Congress is to insure a critical examination of every voucher pertaining to the accounts of the Home, it will be necessary to authorize at least three clerks, one each of the 1st, 2d, and 3d classes, respectively.

COLLEGES.

The study of military science is not wholly confined to the Army. It is extended to the colleges and universities throughout the country. Pursuant to law, seventy-five officers of the Army are detailed as military instructors at agricultural colleges and other first-class institutions where young men are drilled and taught the rudiments of a military education. The Inspector-General says in his report that over ten thousand boys and young men were under military instruction at the

different educational establishments during the past year. When these young men go out into the world they will not have the military education of a graduate from the Military Academy, but they will have some military knowledge which may prove of advantage to them and to the country.

Many commissioned officers and enlisted men are from time to time detailed to drill and instruct the militia of the different States, particularly at their annual encampments. Officers are sometimes more permanently detailed on duty with the governors of States for the instruction of the National Guard.

NATIONAL GUARD.

The importance of maintaining and improving the militia of the several States and the District of Columbia is generally admitted. The National Guard is the reserve force of the Army. Attention is invited to the necessary appropriations for arming and equipping this reserve force. In 1808 the appropriations for the militia of the States was $200,000. The highly improved arms and equipments of the present day cost for the same number of men more than treble what they did eighty-four years ago. The population of the country is many times what it was then, and the demand for these equipments has increased many times.

An appropriation of only five times the amount appropriated in 1808 can hardly be considered extravagant. Recent appropriations have been entirely inadequate, and the War Department is under the constant necessity of refusing supplies called for from the different States. An appropriation of at least one million dollars for this purpose is recommended. It is also recommended that the present law be so changed that arms and supplies which have become unserviceable in the hands of the militia may be sold and the proceeds of the sale be used for furnishing new supplies, instead of being covered into the Treasury. It is also recommended that the act of March 1, 1889, be so amended that an independent issue of supplies may be made to the National Guard of the District of Columbia and not be taken from the limited supplies of the regular Army.

ADJUTANT-GENERAL'S DEPARTMENT.

Many of the suggestions of the Adjutant-General in his report have been taken advantage of in the suggestions heretofore made. The administration of this Bureau is running smoothly and its duties are well

performed. Its labors have recently been increased by the order enlarging the scope of the division of military information. This branch of the work of the office bids fair to assume large proportions and to be of great importance to the service.

INSPECTOR-GENERAL'S DEPARTMENT.

The Inspector-General reports that "The spirit and progress of the Army was never better than now." In referring to Indian soldiers he says that they show remarkable aptitude for the military service; that they are amenable to discipline, and are generally of good habits and proud of being soldiers and, considering their ignorance of the English language, their progress in drill has been extraordinary. In speaking of the Army generally, he says that reports of inspections made since the new drill regulations were issued show commendable alacrity on the part of the men in learning them, and that those for the infantry and cavalry are considered an improvement.

For some years there has been a tendency for inspectors to test the tactics and serviceable conditions of commands, and this has been increased by the new drill regulations. The wind, and muscle, and skill, and knowledge of officers and men are receiving more attention and are more readily tested en masse than formerly, and such little problems as the protection of a wagon train, the attack upon a battery, the tests of a reconnaissance, and picket guard, and disposition of defense, can be made now before the inspector as readily as a skirmish drill.

He reports that the quartermaster's stores of all kinds have generally been of excellent quality and sufficient in quantity, and that the subsistence supplies are generally good and sufficient. The losses of stores have been small.

JUDGE-ADVOCATE-GENERAL'S DEPARTMENT.

The report of the Acting Judge-Advocate-General shows a healthy administration of military law. The number of trials by court-martial has increased, but this is largely owing to the fact that the summary courts, recently authorized and put in operation, have disposed of a great many minor offenses which would never have been presented to a general or garrison court-martial. Many of the more trivial offenses will, it is hoped, be hereafter properly treated by company commanders without the aid of a court of any kind.

The military prison at Fort Leavenworth has been admirably managed, and the discipline is perhaps as nearly perfect as the circum-

stances and conditions of the buildings will permit. Important improvements have been made in the buildings and in the construction of light, airy, and more convenient cells.

QUARTERMASTER'S DEPARTMENT.

The report of the Quartermaster-General shows the appropriations and expenditures of the fiscal year. The issues of clothing, equipage, and materials to the Army and the militia of the several States and Territories and the District of Columbia have been made with commendable promptness and have given general satisfaction. The issues to the militia amounted to about $215,000.

The appropriation for construction of buildings and the enlargement of military posts was $745,000. This amount has been nearly all expended in repairs and in the erection of new buildings, and there are now under contract buildings at Fort Brady, Mich., which will cost about $43,000, and buildings at Fort Bliss, Tex., which will cost about $168,000. Besides these repairs and constructions, under a special act and appropriation, private buildings have been purchased at the different posts amounting in value to $50,000.

Decided improvements have been made in different national cemeteries, and the roadways authorized by Congress have all been completed within the sum appropriated. Five thousand eight hundred and thirty-two headstones have been provided to mark the graves of Union soldiers, sailors and marines, buried in national, post, city and village cemeteries.

SUBSISTENCE DEPARTMENT.

The report of the Commissary-General of Subsistence shows the financial transactions of his department for the fiscal year, and gives the usual statistical information concerning that branch of the service.

He again invites attention to the great importance of having cooks and bakers enlisted for the Army, and, considering them essential to the health, comfort, and efficiency of the troops, recommends that their enlistment be authorized by law. Attention has already been called to the importance of the enlistment of general-service men for duty in this and other departments.

MEDICAL DEPARTMENT.

The report of the Surgeon-General shows the health of the Army to be good. Taking into consideration the number of admissions to hospital, the number constantly sick, the number of deaths, and the num-

ber discharged for disability, the rates are lower than for the previous year, and considerably lower than the rates of the previous decade. Nine of the thirteen larger posts, garrisoned by from four hundred to seven hundred men each, have excellent records, due largely, no doubt, to the sanitary condition of the posts and the care taken of the soldiers, as well as to the supply of good food and wholesome water. There have been no prevailing contagious or infectious diseases. There have been a few cases of smallpox, measles, scarlet fever, and diphtheria, but the precautions taken have prevented the spread of the diseases. Influenza has prevailed at a number of the posts, both at the beginning and the end of the year. Formerly malarial disease entered largely into the composition of the sick report, while now it occupies a minor position except at a few posts. This falling off of malarial disease is attributed largely to pure water, the supply being much better than formerly.

Boards for the examination of candidates for admission to the Medical Corps were convened in Chicago in February, 1892, and in New York in October, 1891, and March, 1892, each remaining in session one month. Seventy-seven candidates were invited to appear, and fifty-eight responded, out of which thirteen only were accepted.

The Surgeon-General takes a deep interest in the more perfect organization of a medical department for the National Guard. It is hoped that this may be accomplished through the medical department of the Army, and the Association of Military Surgeons of the National Guard of the United States.

The establishment of new posts and the construction of new barracks has given better quarters and improved sanitary arrangements to the enlisted men, all of which tends to improve the health of the Army. The supply of water furnished at the new posts is better than that at many of the smaller garrisons, at some of which it has been impure and insufficient in quantity. Notwithstanding these improvements, the supply has been and still is inadequate at some posts. A few have been threatened with water famine, but in most cases the deficiency has been remedied. There is, however, need of a better and more abundant supply at Fort Myer, Va. At Fort Brown, Tex., distilled water has been substituted for that of the Rio Grande, and with beneficial results.

PAY DEPARTMENT.

The report of the Paymaster-General shows that the amount disbursed for pay of the Army was about $300,000 less than last year.

This is no doubt partially due to the amount retained from the pay of enlisted men on their first enlistment, as provided by the Act of July 16, 1890. The amount disbursed in payment of claims settled by the Second Auditor of the Treasury was also about $300,000 less than last year.

CORPS OF ENGINEERS.

The report of the Chief of Engineers contains information concerning the construction of fortifications for the seaboard and the improvement of rivers and harbors. The construction of emplacements for modern high-power guns and mortars in some of the larger harbors is well under way, but it is not yet coextensive with the construction of the guns or the needs of the coast defenses. It is hoped that sufficient appropriations will be made for this purpose and for the purchase of the sites needed upon the advanced headlands of our harbors for long-range guns. A partial estimate for this purpose is submitted.

Provision has heretofore been made by Congress for the establishment of rules and regulations for the navigation of certain canals operated by the Government, as well as for the enforcement of such rules, and providing penalties for their violation. It is recommended that this authority be extended to all canals and similar works operated by the Government. To this end the Chief of Engineers submits the draft of a bill which, if enacted, it is thought will accomplish the object desired.

Attention is called to the practice on the part of vessels entering New York Harbor of emptying ballast in the approaches to the harbor off Sandy Hook, both within and without the 3-mile limit. The continued deposit of large quantities of this material may prove a source of danger and inconvenience to navigation, and stringent measures should be taken to prevent it. The Chief of Engineers submits the draft of a bill to prevent the evil complained of.

The immense and growing commerce of our great lakes is worthy of fostering care. Its rapid increase may well be a source of national pride, evidencing as it does the great wealth of the nation and the energy of American enterprise. Attention is invited to the estimates of the Chief of Engineers for charts and surveys pertaining to the northern and northwestern lakes; to those for surveys and reconnaissances in military departments, and for maps for the use of the War Department, including war maps.

ORDNANCE DEPARTMENT.

It will be seen by the report of the Chief of Ordnance that there has been activity in the different gun factories, and that additions and improvements have been made, especially in all that pertains to our heavy guns and coast defenses, and in all matters relating to explosives and submarine operations.

Perhaps the most important advance of the year has been in the adoption of a new small arm for the service. A board of competent officers spent nearly two years in examining and testing the different arms recommended for use and presented for tests. Fifty-three different guns were tested. They were of both American and foreign invention, and some of them are arms now in use by the principal military powers of Europe. The one finally recommended is what is known as a magazine arm, and can be used as such, or as a single-loader. It has been adopted for a .30 caliber infantry rifle and carbine, and steps are being taken for its manufacture. Provision should be made for a full supply to the Army and to the National Guard, and for a suitable stock to be held in reserve. A test of the different arms now in service throughout the world, as well as those of recent invention, has, it is believed, enabled the Department to fix upon an arm superior to any now in actual use.

SIGNAL CORPS.

The Chief Signal Officer reports the continued improvement of the signal service and important acquisitions in knowledge and in material and instruments. A course of instruction has been established at Fort Riley, Kans., which comprises practical and theoretical work in electricity, field surveying, telegraphy, telephony, and signaling. A plan outlining the work and equipment of the corps in case of hostilities has been approved, and will be carried out as appropriations are made and opportunities occur. Investigations of the possibilities of electric flash light are in progress. The management of the military telegraphs has been satisfactory, and some new lines have been constructed. A practical test of the field telegraph train has been made in the construction of a flying field telegraph line about 35 miles long in twenty-four hours' time.

RECORD AND PENSION OFFICE.

The Record and Pension Office has been in successful operation. Marked progress has been made in the restoration and preservation of

the military records of the late war and in perfecting the record-card system for the volunteer officers and soldiers of the different States. The progress of the work opens up a prospect of reducing the clerical force at no very distant day. Before that is done, however, all the records of the Revolutionary War should be turned over to this Department and put into the best possible condition for preservation and reference. A law was enacted at the last session of Congress requiring some of the old military records to be turned over to this Department, but it does not include those now in the State Department. It is not right that these valuable records of the great Revolutionary struggle should be scattered as they now are. They should all be brought together and put into the best possible condition.

WAR RECORDS.

The work of collecting and publishing the Records of the War of the Rebellion has progressed satisfactorily, and is nearing completion. Work on the atlas, of maps, and plans has also been actively carried forward. The collecting, arranging, publishing, and distributing of the great amount of information contained in the printed volumes is a much greater undertaking than is generally supposed.

CHICKAMAUGA AND CHATTANOOGA NATIONAL PARK.

The commission to whom has been entrusted the work of establishing the national park, which is to include the battle-field of Chickamauga and parts of those of Lookout Mountain, Mission Ridge, and Tunnel Hill, has made very gratifying progress with its work during the fiscal year. The greater part of the land has been acquired, roads have been opened, and satisfactory progress made in the restoration of the field to the condition in which it was at the time of the battle in 1863. The data for identifying and marking the lines of the Union and Confederate armies has been obtained and verified, and the work of establishing tablets in place will soon be undertaken. This work, when completed, will be of great interest and importance, not only to those who took part on both sides in the memorable events which occurred there, but to the country at large and to future generations.

EXPENDITURES, APPROPRIATIONS, AND ESTIMATES.

The expenditures for the fiscal year ended June 30, 1892, are as follows:

Salaries and contingent expenses	$2,016,545.65
Military establishment: Support of the Army and Military Academy	23,404,533.83
Public works, including river and harbor improvements	19,861,183.96
Miscellaneous objects	5,936,707.15
	51,218,970.59

The appropriations for the fiscal year ending June 30, 1893, are as follows:

Salaries and contingent expenses	$2,047,712.45
Military establishment: Support of the Army and Military Academy	24,626,921.15
Public works, including river and harbor improvements	25,895,282.00
Miscellaneous objects	3,963,006.94
	56,532,922.54

The estimates for the fiscal year ending June 30, 1894, are as follows:

Salaries and contingent expenses	$2,087,206.00
Military establishment: Support of the Army and Military Academy	26,301,855.86
Public works	10,233,413.09
Miscellaneous objects	4,732,204.77
Total	43,354,679.72

The statement of appropriations, expenditures, and the balances on hand at the close of the fiscal year ending June 30, 1892, is appended to this report and submitted herewith, as required by law.

GRAND ARMY ENCAMPMENT.

In the month of September, 1892, there was held in the national capital an annual encampment of the Grand Army of the Republic, for which Congress made liberal appropriations from the funds of the District. The encampment was a great success. It was a large and orderly gathering of the veterans of the war, and reflected credit upon the people at large as well as upon those who had the matter in charge. A separate and detailed report will be made to Congress, as required by the act making the appropriation.

WORLD'S COLUMBIAN EXPOSITION.

The plans for the War Department exhibit at the World's Columbian Exposition are as nearly perfected as time and circumstances will permit. All sections of the proposed exhibit are well in hand. It is

expected to be illustrative of the advancement of the age in all that pertains to the art of war and the relative standing of our Government among the great military powers of the world.

Among the important events of this great year of jubilee will be the naval display at Hampton Roads in April next. There will doubtless be a great gathering of the naval officers of the nations. In a certain sense they will be our guests. The War Department has an important military post and school at Fort Monroe, and should be in a condition to do its full share in making this a great success. An appropriation of $25,000 for this purpose is recommended.

In conclusion, I desire to express my gratitude to you for many acts of forbearance and kindness, and my thanks to the Major-General Commanding the Army, and to the heads of the different Bureaus of the Department for valuable assistance; all of which has tended to make the performance of my new duties pleasant and agreeable.

S. B. ELKINS,
Secretary of War.

APPENDIX.

Statement of appropriations under direction of the War Department for the fiscal year ending June 30, 1892, showing the amount appropriated under each title of appropriation, the amount drawn by requisition upon the Treasury, and the balances subject to requisition July 1, 1892.

Title of appropriation.	Balances July 1, 1891.	Appropriated July 1, 1891, to June 30, 1892.	Repayments July 1, 1891, to June 30, 1892.	Aggregate available.	Payments July 1, 1891, to June 30, 1892.	Carried to surplus fund June 30, 1892.	Balance June 30, 1892.
SALARIES, CONTINGENCIES, ETC.							
Salaries, office of—							
Secretary of War	$4,300.92	$106,550.00		$110,850.92	$105,061.51	$914.80	$4,874.61
Adjutant-General	11,681.16	212,920.00		224,601.16	212,125.75	9,748.63	2,726.78
Inspector-General	490.56	9,320.00		9,810.56	9,319.43	52.75	438.38
Judge-Advocate-General	325.90	14,860.00		15,185.90	14,851.91	84.25	249.74
Salaries, Signal Office	4,273.17	5,700.00		9,973.17	5,519.68	2,339.47	2,114.02
Salaries, office of—							
Quartermaster-General	2,278.01	158,940.00		161,218.01	156,527.94	1,338.01	3,352.06
Commissary-General	1,416.17	42,760.00		44,176.17	42,713.94	471.17	991.06
Surgeon-General	10,046.41	177,290.00		187,336.41	176,348.06	8,417.78	2,570.57
Paymaster-General	404.24	39,160.00		39,569.24	39,159.18	325.96	79.10
Chief of Ordnance	224.62	44,860.00		45,084.62	44,759.82	189.62	135.18
Chief of Engineers	509.71	23,240.00		23,749.71	23,146.66	179.71	423.34
Publication of Records of the Rebellion	3,069.24	31,780.00		34,849.24	31,353.95	1,084.78	2,410.51
Salaries of employés, public buildings and grounds, under Chief Engineer		49,060.00		49,060.00	49,038.80		21.20
Contingent expenses, public buildings and grounds, under Chief Engineer	.66	500.00		500.66	499.20	.66	.80
Salaries, record and pension division, War Department	33,364.48	1,009,390.00		1,042,754.48	999,602.78	315.33	42,836.37
Disposal of useless papers, War Department			$71.20	71.20			71.20
Contingent expenses, War Department	271.40	55,000.00		55,271.40	55,053.86	189.48	28.06
Postage, postal union countries, War Department	440.00	1,500.00		1,940.00	640.00	65.00	1,235.00
Stationery, War Department	1,465.15	45,000.00		46,465.15	44,394.38	508.69	1,562.08
Rent of buildings, War Department	400.00	6,600.00		7,000.00	6,500.00		500.00
Total salaries, contingent expenses and postage	74,961.80	2,034,430.00	71.20	2,109,463.00	2,016,616.85	26,226.09	66,620.06
Repayments in excess of payments					71.20		
Actual expenditures					2,016,545.65		
MILITARY ESTABLISHMENT.							
Expenses of Commanding General's office		1,750.00		1,750.00	1,750.00		
Expenses of recruiting	58,578.67	130,000.00		188,578.67	120,709.27	16,760.69	51,108.71
Contingencies of the Adjutant-General's department	30.80		63.88	94.68		30.80	63.88
Contingencies, headquarters of military divisions and departments		3,000.00		3,000.00	3,000.00		
Contingencies of Inspector-General's department			7.70	7.70		7.70	
Contingencies of the Army	3,154.00	15,000.00		18,154.00	10,969.35	4,459.14	2,725.51
Signal Service of the Army	123.76	7,500.00		7,623.76	7,497.24	112.78	13.74
Pay, etc., of the Army	151,923.95	13,227,679.19		13,379,603.14	12,783,704.20	103,550.54	492,348.40
Subsistence of the Army	422,088.75	1,745,000.00		2,167,088.75	1,524,040.97	383,388.63	259,659.15

Regular supplies, Quartermaster's Department	337,022.00	2,678,000.00		3,015,022.00	2,353,814.09	98,132.00	563,075.31
Incidental expenses, Quartermaster's Department	38,680.16	675,000.00		713,680.16	646,126.14	19,023.10	48,530.92
Barracks and quarters	38,515.95	725,000.00		763,515.95	677,585.79	10,887.14	75,043.02
Transportation of the Army and its supplies	430,173.18	2,750,000.00		3,180,173.18	2,401,619.21	267.97	778,286.00
Transportation of the Army and its supplies, Pacific railroads		176,432.30		176,432.30	176,432.30		
Barracks and quarters, Fort Myer, Va			7.00	7.00			7.00
Horses for cavalry and artillery	34,166.71	150,000.00		184,166.71	111,466.70	3,145.94	69,554.07
Construction and repair of hospitals	26,170.34	75,000.00		101,170.34	87,768.38	1.80	13,400.16
Quarters for hospital stewards	622.43	12,000.00		12,622.43	10,725.75	68.30	1,828.38
Shooting galleries and ranges	5,406.67	5,000.00		10,406.67	4,972.69	706.56	4,727.42
Purchase of land for target ranges, Fort McPherson, Ga	16,500.00			16,500.00			16,500.00
Rifle range, Fort Sheridan, Ill	252.00			252.00	243.17		8.83
Clothing and camp and garrison equipage	79,437.88	1,175,000.00		1,254,437.88	1,112,491.41	808.30	141,138.17
Medical and hospital department	58,757.80	200,000.00		258,757.80	197,206.89	15,691.88	45,859.03
Army Medical Museum		5,000.00		5,000.00	4,846.32	.13	153.55
Library Surgeon-General's Office		10,000.00		10,000.00	9,514.96		485.04
Engineer depot at Willets Point, N. Y	14.80	27,000.00		27,014.80	24,047.50	14.80	2,952.50
Ordnance stores, etc	14,457.03	360,000.00		374,457.03	367,574.01	6,552.82	330.20
Ordnance service	5.91	80,000.00		80,005.91	79,931.99	5.91	68.01
Ordnance material, proceeds of sale	378,486.19	63,137.55		441,623.74	40,979.07		400,644.67
Manufacture of arms	41,363.30	400,000.00		441,363.30	365,220.20		76,143.10
Hotchkiss gun for Military Academy		2,415.00		2,415.00	2,327.33		87.67
Pay of Military Academy	34,893.25	231,436.09		266,329.34	200,205.54	19,233.15	46,890.65
Current and ordinary expenses, Military Academy	600.00	62,576.60		63,176.60	59,727.97	3,442.88	5.75
Miscellaneous items and incidental expenses, Military Academy	107.30	18,770.00		18,877.30	18,113.37	756.63	7.30
Total military establishment	2,171,532.83	25,011,696.73	78.58	27,183,308.14	23,404,612.41	687,049.59	3,091,646.14
Repayments in excess of payments					78.58		
Actual expenditures					23,404,533.83		
PUBLIC WORKS.							
Buildings and grounds, Military Academy.							
Buildings and grounds, Military Academy	53,826.00	65,672.70		119,498.70	119,323.37	175.33	
New academic building, Military Academy	474,000.00			474,000.00	71,479.81		402,520.19
New gymnasium, Military Academy	46,500.00			46,500.00	46,500.00		
Total buildings and grounds, Military Academy	574,326.00	65,672.70		639,998.70	237,303.18	175.33	402,520.19
Arsenals.							
Rock Island Bridge, Rock Island, Ill	10,279.92	14,200.48		24,480.40	16,950.48		7,529.92
Rock Island Arsenal, Rock Island, Ill	154,745.29	17,500.00		172,245.29	159,920.00		12,325.29
Augusta Arsenal, Augusta, Ga		3,443.70		3,443.70	3,443.70		
Columbia Arsenal, Columbia, Tenn	33,753.54			33,753.54	33,753.54		
Frankford Arsenal, Philadelphia, Pa		5,000.00		5,000.00	5,000.00		
Springfield Arsenal, Springfield, Mass	68,000.00	141,639.54		209,639.54	119,583.62		90,055.92
Army Gun Factory, Watervliet Arsenal, West Troy, N. Y	1,215,761.69			1,215,761.69	627,060.68		588,701.01
Watervliet Arsenal, West Troy, N. Y	3,400.00	5,000.00		8,400.00	5,030.00		3,370.00
Kennebec Arsenal, Augusta, Me	519.30			519.30		519.30	

Statement of appropriations under direction of the War Department for the fiscal year ending June 30, 1892, etc.—Continued.

Title of appropriation.	Balances July 1, 1891.	Appropriated July 1, 1891, to June 30, 1892.	Repayments July 1, 1891, to June 30, 1892.	Aggregate available.	Payments July 1, 1891, to June 30, 1892.	Carried to surplus fund June 30, 1892.	Balance June 30, 1892.
PUBLIC WORKS—continued.							
Arsenals—Continued.							
Indianapolis Arsenal, Indianapolis, Ind	$30,110.00			$30,110.00	$28,769.56		$1,340.44
Repairs of arsenals	.41	$45,000.00		45,000.41	44,996.92	$0.41	3.08
Testing machine		10,000.00		10,000.00	10,000.00		
Powder depot, Dover, N. J	19,299.92			19,299.92			19,299.92
Proving ground, Sandy Hook, N. J	62,617.00	19,000.00		81,617.00	76,391.76		5,225.24
Total arsenals	1,598,487.07	260,783.72		1,859,270.79	1,130,900.26	519.71	727,850.82
Fortifications.							
Construction of a counterpoise battery	37,400.00			37,400.00			37,400.00
Protection of shore, Fortress Monroe, Va	22,000.00			22,000.00	22,000.00		
Artesian well, Fortress Monroe, Va	6,000.00			6,000.00			6,000.00
Armament of fortifications	5,001,487.73			5,001,487.73	1,593,095.97		3,408,391.76
Preservation and repair of fortification	95,668.45			95,668.45	77,783.62		17,884.83
Mountain guns		16,000.00		16,000.00			16,000.00
Board of ordnance and fortification	150,000.00	5,000.00		155,000.00	39,898.54		115,101.46
Board on fortifications or other defenses	28,470.77			28,470.77			28,470.77
Board on Army gun factories	2,907.40			2,907.40			2,907.40
Plans for fortifications	7,750.00			7,750.00	6,850.00		900.00
Torpedoes for harbor defense	568,117.74			568,117.74	185,932.86		382,184.88
Torpedo howitzers	15,000.00			15,000.00			15,000.00
Machine guns	20,155.20	20,000.00		40,155.20	39,632.80	200.00	322.40
Pneumatic dynamite guns	587,361.45			587,361.45			587,361.45
Sea walls and embankments	9,750.25			9,750.25	2,000.00		7,750.25
Ammunition for morning and evening gun	15,948.00	20,600.00		36,548.00	19,104.29	.08	17,443.63
Artillery targets		5,000.00		5,000.00	2,571.29		2,428.71
Purchase of sites for seacoast defenses	100.28			100.28			100.28
Sites for fortifications and seacoast defenses	746,101.64			746,101.64	586,239.77		159,861.87
Gun and mortar batteries	1,824,841.96			1,824,841.96	800,388.13		1,024,453.83
Sea wall, Governors Island, New York Harbor	45,000.00			45,000.00	38,000.00		7,000.00
Powder and projectiles, proceeds of sales	5,340.27			5,340.27	1,106.27		4,234.00
Seacoast batteries for instruction of militia			$526.32	526.32		526.32	
Total fortifications	9,189,401.14	66,600.00	526.32	9,256,527.46	3,414,603.54	726.40	5,841,197.52
Repayments in excess of payments					526.32		
Actual expenditures					3,414,077.22		

Buildings and grounds in and around Washington.							
Improvement and care of public grounds	1,499.18	73,950.00		75,449.18	73,486.11	1,499.18	463.89
Repairs, fuel, etc., Executive Mansion	49.76	43,000.00		43,049.76	42,972.68	49.76	27.32
Lighting, etc., Executive Mansion	1,055.98	15,024.80		16,080.78	15,024.80	1,055.98	
Repairs to water pipes and fire plugs	45.93	2,500.00		2,545.93	2,433.42	45.93	66.58
Telegraph to connect the Capitol with the Departments and the Government Printing Office		1,250.00		1,250.00	1,248.98		1.02
Water supply, Executive Mansion	5,300.00			5,300.00			5,300.00
Building for State, War, and Navy Departments	46,018.81		4,000.00	50,018.81			50,018.81
Increasing the water supply of Washington, D. C.	432,606.37			432,606.37	2,883.36		429,723.01
Erection of fishways at Great Falls	29,520.32			29,520.32	29,520.32		
Building for Army Medical Museum and Library	1,191.86		43.44	1,235.30			1,235.30
Care and maintenance of the Washington Monument	11.98	12,820.00		12,831.98	12,819.56	11.98	.44
Total buildings and grounds in and around Washington	517,300.19	148,544.80	4,043.44	669,888.43	180,389.23	2,662.83	486,836.37
Repayments in excess of payments					4,043.44		
Actual expenditures					176,345.79		
Military posts.							
Purchase of Fort Brown reservation, Texas	160,000.00			160,000.00			160,000.00
Wharf at Fortress Monroe, Va	28,340.80			28,340.80			28,340.80
Bridge over Mill Creek, Fortress Monroe, Va	115.78			115.78			115.78
Sewerage system, Fortress Monroe, Va	24,902.10			24,902.10			24,902.10
Military posts	113,622.24	745,000.00		858,622.24	577,018.94		281,603.30
Officers' quarters, military post at Columbus, Ohio	471.90			471.90			471.90
Land for military post at Madison Barracks, N. Y		10,000.00		10,000.00	10,000.00		
Military post—							
Fort Sidney, Nebr	15,004.86			15,004.86			15,004.86
Near Newport, Ky. (site)	11,972.05			11,972.05	11,834.00		138.05
Near Newport, Ky. (buildings)	13,339.51			13,339.51			13,339.51
Near Denver, Colo	5.83			5.83			5.83
Atlanta, Ga	75,000.00			75,000.00			75,000.00
Near Chicago, Ill	346.66			346.66			346.66
Fort Snelling, Minn	15,000.00			15,000.00			15,000.00
Plattsburg, N. Y	200,000.00			200,000.00			200,000.00
Helena, Mont		100,000.00		100,000.00			100,000.00
At Eagle Pass, Tex. (site)		20,000.00		20,000.00			20,000.00
At Fort Omaha, Nebr	113,383.54			113,383.54	14,650.00		98,733.54
Fort Bliss, Tex	148,959.00			148,959.00	4,409.69		144,549.31
Fort Brady, military post, Michigan	96,837.60			96,837.60	96,837.60		
Purchase of buildings at military posts		50,000.00		50,000.00	40,272.52		9,727.48
Improvement of Yellowstone National Park	25,000.10	75,000.00		100,000.10	99,481.12		518.98
Chickamauga and Chattanooga National Park	104,753.08	200,000.00		304,753.08	165,824.00		138,929.08
Total military posts	1,147,055.05	1,200,000.00		2,347,055.05	1,020,327.87		1,326,727.18

Statement of appropriations under direction of the War Department for the fiscal year ending June 30, 1892, etc.—Continued.

Title of appropriation.	Balances July 1, 1891.	Appropriated July 1, 1891, to June 30, 1892.	Repayments July 1, 1891, to June 30, 1892.	Aggregate available.	Payments July 1, 1891, to June 30, 1892.	Carried to surplus fund June 30, 1892.	Balance June 30, 1892.
PUBLIC WORKS—continued.							
Harbors and rivers.							
Improving harbor at—							
Belfast, Me	$11,000.00			$11,000.00	$11,000.00		
Rockland, Me	29,000.00			29,000.00	19,000.00		$10,000.00
Breakwater from Mount Desert to Porcupine Island, Maine	77,907.00			77,907.00	16,000.00		61,907.00
Improving harbor at—							
Portland, Me	40,000.00			40,000.00	15,000.00		25,000.00
Camden, Me	5,500.00			5,500.00	5,500.00		
Improving channel in Back Cove, Portland, Me	24,500.00			24,500.00	1,000.00		23,500.00
Improving harbor at—							
Rockport, Me	4,500.00			4,500.00	4,500.00		
Portsmouth, N. H	16,997.00			16,997.00	13,269.01		3,727.99
Harbor of Refuge at Little Harbor, N. H	32,500.00			32,500.00	5,500.00		27,000.00
Improving harbor at—							
Burlington, Vt	19,000.00			19,000.00	4,000.00		15,000.00
Swanton, Vt	326.93			326.93			326.93
Boston, Mass	135,300.00			135,300.00	63,400.00		71,900.00
Edgartown, Mass	1,400.00			1,400.00	1,400.00		
Chatham, Mass	4,400.00			4,400.00	4,400.00		
Gloucester	15,000.00			15,000.00	12,500.00		2,500.00
Harbor of Refuge, Sandy Bay, Cape Ann	112,000.00			112,000.00	84,000.00		28,000.00
Improving harbor at—							
Lynn	10,000.00			10,000.00	5,000.00		5,000.00
Nantucket	11,500.00			11,500.00	11,500.00		
Newburyport	17,000.00			17,000.00	12,000.00		5,000.00
New Bedford	2,812.69			2,812.69	2,812.69		
Plymouth	3,000.00			3,000.00	2,000.00		1,000.00
Provincetown	7,500.00			7,500.00	5,500.00		2,000.00
Scituate	10,000.00			10,000.00	10,000.00		
Salem	13,900.00			13,900.00	13,900.00		
Vineyard Haven	1,502.74			1,502.74	1,502.74		
Wareham	1,812.42			1,812.42	1,812.42		
Westfield	4,000.00			4,000.00			4,000.00
Harbor of Refuge at Point Judith, Rhode Island	31,500.00			31,500.00	31,500.00		
Improving harbor at Block Island	4,800.00			4,800.00	4,800.00		
Breakwater at New Haven, Conn	110,908.00			110,908.00	68,000.00		42,908.00
Harbor of Refuge, Ducks Island Harbor, Conn	17,500.00			17,500.00	17,000.00		500.00
Improving harbor at—							
Bridgeport, Conn	14,244.00			14,244.00	14,000.00		244.00
Black Rock, Conn	5,000.00			5,000.00	5,000.00		

Five Mile River, Conn	5,050.00			5,050.00	5,050.00		
New Haven, Conn	500.00			500.00			500.00
Milford, Conn	1,000.00			1,000.00	1,000.00		
Norwalk, Conn	4,000.00			4,000.00	4,000.00		
Stamford, Conn	500.00			500.00	500.00		
Wilson's Point, Conn	18,000.00			18,000.00	16,000.00		2,000.00
Improving Buttermilk Channel, New York	30,837.00			30,837.00	6,000.00		24,837.00
Improving Arthur Kill between Staten Island and New Jersey, New York and New Jersey	750.00			750.00			750.00
Breakwater at Rouse's Point, Lake Champlain, New York	3,500.00			3,500.00	3,500.00		
Improving harbor at Buffalo, N. Y	168,244.00			168,244.00	131,322.05		36,921.95
Improving Canarsie Bay, N. Y	5,000.00			5,000.00	5,000.00		
Improving channel between Staten Island and New Jersey, New York and New Jersey	2,500.00			2,500.00	1,500.00		1,000.00
Improving channel in Gowanus Bay, New York	115,000.00			115,000.00	115,000.00		
Improving harbor at—							
Charlotte, N. Y	30,764.58			30,764.58	20,000.00		10,764.58
Dunkirk, N. Y	8,498.41		$5,000.00	13,498.41			13,498.41
Flushing Bay, N. Y	15,000.00			15,000.00	15,000.00		
Great Sodus Bay, N Y	10,000.00			10,000.00	10,000.00		
Greenport, N. Y	1,500.00			1,500.00	1,500.00		
Glen Cove, N. Y	9,000.00			9,000.00	9,000.00		
Huntington, N. Y	6,500.00			6,500.00	6,500.00		
Little Sodus Bay, N. Y	13,000.00			13,000.00	12,000.00		1,000.00
Oak Orchard, N. Y	3,000.00			3,000.00	3,000.00		
Ogdensburg, N. Y	37,000.00			37,000.00	17,500.00		19,500.00
Olcutt	16,500.00			16,500.00	12,500.00		4,000.00
Oswego, N. Y	25,044.82			25,044.82	20,000.00		5,044.82
Port Chester, N. Y	500.00			500.00			500.00
Port Jefferson, N. Y	22,874.76			22,874.76	17,500.00		5,374.76
Plattsburg, N. Y	26,000.00			26,000.00	16,000.00		10,000.00
Pultneyville, N. Y	1,000.00			1,000.00	700.00		300.00
Rondout, N. Y	5,000.00			5,000.00	5,000.00		
Improving Tonawanda Harbor and Niagara River, New York	63,000.00			63,000.00	45,500.00		17,500.00
New York Harbor	90,000.00			90,000.00	64,000.00		26,000.00
Harbor at Mamaroneck	220.55			220.55			220.55
Improving Raritan Bay, New Jersey	20,000.00			20,000.00	20,000.00		
Survey of harbor at Atlantic City, N. J	996.49			996.49			996.49
Improving Shoal Harbor and Compton's Creek, New Jersey	500.00			500.00	500.00		
Improving harbor between Philadelphia, Pa., and Camden, N. J	666,500.00			666,500.00	50,000.00		616,500.00
Improving harbor at Erie, Pa	42,786.62			42,786.62	6,500.00		36,286.62
Ice harbor at Marcus Hook, Pa	5,000.00			5,000.00			5,000.00
Ice harbor at New Castle, Del	15,083.00			15,083.00	11,500.00		3,583.00
Improving harbor at Delaware Breakwater, Delaware	60,000.00			60,000.00	60,000.00		
Ice harbor at Reedy Island, Delaware	16,236.93			16,236.93			16,236.93
Improving harbor at Wilmington, Del	10,000.00			10,000.00	8,000.00		2,000.00
Removing obstructions from the harbor at Delaware Breakwater	734.08			734.08			734.08
Improving harbor at—							
Baltimore, Md	349,792.00			349,792.00	349,792.00		
Breton Bay, Leonardtown, Md	900.00			900.00	900.00		
Annapolis, Md	1,524.58			1,524.58			1,524.58
Cambridge, Md	5,000.00			5,000.00			5,000.00

Statement of appropriations under direction of the War Department for the fiscal year ending June 30, 1892, etc.—Continued.

Title of appropriation.	Balances July 1, 1891.	Appropriated July 1, 1891, to June 30, 1892.	Repayments July 1, 1891, to June 30, 1892.	Aggregate available.	Payments July 1, 1891, to June 30, 1892.	Carried to surplus fund June 30, 1892.	Balance June 30, 1892.
PUBLIC WORKS—continued.							
Harbors and rivers—Continued.							
Improving harbor at—							
Norfolk, Va	$120,031.29			$120,031.29	$116,031.29		$4,000.00
Onancock, Va	3,000.00			3,000.00	3,000.00		
Beaufort, N. C	14,900.00			14,900.00	10,000.00		4,900.00
Improving Edenton Bay, North Carolina	2,447.41			2,447.41			2,447.41
Improving waterway between Beaufort Harbor and New River, North Carolina	4,500.00			4,500.00			4,500.00
Improving waterway between New Berne and Beaufort, N. C	7,477.00			7,477.00			7,477.00
Improving harbor at—							
Charleston, S. C	275,000.00			275,000.00	275,000.00		
Georgetown, S. C	172,000.00			172,000.00	148,000.00		24,000.00
Brunswick, Ga	9,500.00			9,500.00	9,500.00		
Darien, Ga	12,000.00			12,000.00	12,000.00		
Savannah, Ga	25,225.00			25,225.00	23,000.00		2,225.00
Improving Cumberland Sound, Georgia and Florida	69,500.00			69,500.00	68,500.00		1,000.00
Improving Apalachicola Bay, Florida	18,000.00			18,000.00	18,000.00		
Improving channel Charlotte Harbor and Pease Creek, Florida	30,000.00			30,000.00			30,000.00
Improving Tampa Bay, Florida	15,000.00			15,000.00	15,000.00		
Improving harbor at—							
Key West, Fla	25,000.00			25,000.00	25,000.00		
Pensacola, Fla	25,000.00			25,000.00	20,000.00		5,000.00
Mobile, Ala	260,000.00			260,000.00	250,000.00		10,000.00
Improving Biloxi Bay, Mississippi	9,000.00			9,000.00			9,000.00
Improving ship channel in Galveston Bay, Texas	49,960.00			49,960.00	5,001.94		44,958.06
Improving harbor at—							
Brazos Santiago, Tex	56,855.00			56,855.00			56,855.00
Galveston, Tex	1,100,000.00			1,100,000.00	570,002.81		529,997.19
Ashtabula, Ohio	30,000.00			30,000.00	21,780.00		8,220.00
Black River, Ohio	5,500.00			5,500.00	5,500.00		
Cleveland, Ohio	48,000.00			48,000.00	47,973.69		26.31
Fairport, Ohio	14,300.00			14,300.00	13,300.00		1,000.00
Huron, Ohio	7,000.00			7,000.00	7,000.00		
Port Clinton, Ohio	2,000.00			2,000.00	2,000.00		
Sandusky City, Ohio	30,000.00			30,000.00	28,000.00		2,000.00
Toledo, Ohio	168,000.00			168,000.00	165,300.00		2,700.00
Ice harbor at mouth of Muskingum River, Ohio	17,000.00			17,000.00	17,000.00		
Improving harbor at—							
Vermilion, Ohio	2,000.00			2,000.00			2,000.00
Michigan City, Ind	36,141.72			36,141.72	24,000.00		12,141.72

Calumet, Ill	15,463.00			15,463.00	7,500.00		7,963.00
Chicago, Ill	90,000.00			90,000.00	90,000.00		
Waukegan, Ill	21,000.00			21,000.00	14,000.00		7,000.00
St. Louis, Mo	62,000.00			62,000.00	31,000.00		31,000.00
Harbor of refuge at—							
Grand Marais, Mich	49,889.27			49,889.27	45,989.27		3,900.00
Portage Lake, Mich	4,000.00			4,000.00			4,000.00
Sand Beach, Mich	30,000.00			30,000.00			30,000.00
Improving harbor at—							
Black Lake, Mich	4,000.00			4,000.00	4,000.00		
Charlevoix, Mich	2,000.00			2,000.00			2,000.00
Frankfort, Mich	5,000.00			5,000.00	1,000.00		4,000.00
Grand Haven, Mich	43,000.00			43,000.00	29,000.00		14,000.00
Manistee, Mich	23,000.00			23,000.00	21,000.00		2,000.00
Cheboygan, Mich	17,955.00			17,955.00			17,955.00
Ludington, Mich	7,000.00			7,000.00	5,500.00		1,500.00
Manistique, Mich	2,500.00			2,500.00	500.00		2,000.00
Marquette, Mich	34,182.00			34,182.00	20,182.00		14,000.00
Muskegon, Mich	30,000.00			30,000.00	24,000.00		6,000.00
Pentwater, Mich	3,000.00			3,000.00	2,000.00		1,000.00
Petoskey, Mich	15,000.00			15,000.00			15,000.00
St. Joseph, Mich	5,000.00			5,000.00	5,000.00		
South Haven, Mich	6,000.00			6,000.00	6,000.00		
White River, Mich	12,000.00			12,000.00	1,500.00		10,500.00
Improving Eagle Harbor	2,486.33			2,486.33	200.00		2,286.33
Improving mouth and harbor of Cedar River, Michigan	2,000.00			2,000.00	500.00		1,500.00
Improving Harbor of Refuge Lake Huron, Michigan	14,865.20			14,865.20	10,000.00		4,865.20
Improving harbor at—							
Ahnapee, Wis	4,000.00			4,000.00	4,000.00		
Ashland, Wis	49,264.40			49,264.40	44,864.40		4,400.00
Green Bay, Wis	7,000.00			7,000.00	5,300.00		1,700.00
Kenosha, Wis	11,000.00			11,000.00	10,000.00		1,000.00
Kewaunee, Wis	4,500.00			4,500.00	4,500.00		
Manitowoc, Wis	1,055.13			1,055.13	1,055.13		
Menomonee, Wis	2,024.49			2,024.49	2,024.49		
Milwaukee, Wis	6,000.00			6,000.00	6,000.00		
Oconto, Wis	2,000.00			2,000.00	2,000.00		
Pensaukee, Wis	3,500.00			3,500.00	3,000.00		500.00
Port Washington, Wis	3,000.00			3,000.00	3,000.00		
Racine, Wis	15,500.00			15,500.00	15,500.00		
Superior Bay and St. Louis Bay, Wis	52,963.70			52,963.70	32,563.70		20,400.00
Sheboygan, Wis	10,600.00			10,600.00	10,600.00		
Two Rivers, Wis	500.00			500.00	500.00		
Harbor of refuge, Milwaukee Bay, Wis	74,000.00			74,000.00	58,500.00		15,500.00
Harbor of refuge at entrance Sturgeon Bay Canal, Wisconsin	2,000.00			2,000.00	1,500.00		500.00
Ice harbor at Dubuque, Iowa	4,503.99			4,503.99			4,503.99
Improving harbor at—							
Agate Bay, Minnesota	25,797.40			25,797.40	24,797.40		1,000.00
Grand Marais, Minnesota	16,000.00			16,000.00	16,000.00		
Duluth, Minnesota	44,976.00			44,976.00	29,600.00		15,376.00
Breakwater and harbor of refuge between Straits of Fuca and San Francisco, California	140,858.52			140,858.52			140,858.52

Statement of appropriations under direction of the War Department for the fiscal year ending June 30, 1892, etc.—Continued.

Title of appropriation.	Balances July 1, 1891.	Appropriated July 1, 1891, to June 30, 1892.	Repayments July 1, 1891, to June 30, 1892.	Aggregate available.	Payments July 1, 1891, to June 30, 1892.	Carried to surplus fund June 30, 1892.	Balance June 30, 1892.
PUBLIC WORKS—continued.							
Harbors and rivers—Continued.							
Improving Humboldt harbor and bay, California	$108,735.00			$108,735.00	$82,735.00		$26,000.00
Improving harbor at—							
Oakland, California	217,444.00			217,444.00	155,000.93		62,443.07
Wilmington, California	51,111.10			51,111.10	43,000.00		8,111.10
San Luis, California	25,000.00			25,000.00	25,000.00		
San Diego, California	47,000.00			47,000.00			47,000.00
Survey of San Francisco Harbor, San Pablo, and Suisan bays, Straits of Carquinez, and mouths of San Joaquin and Sacramento rivers, California	1,000.00			1,000.00			1,000.00
Survey of Pacific coast between points Dumas and Capistrane, California	3,500.00			3,500.00	150.00		3,350.00
Improving entrance to Coos bay and harbor, Oregon	40,000.00			40,000.00	38,259.40		1,740.60
Improving Yaquina Bay, Oregon	70,000.00			70,000.00	56,078.57		13,921.43
Improving Nehalem Bay, Oergon	8,500.00			8,500.00			8,500.00
Purchase of Portage Lake and Lake Superior canals	350,000.00			350,000.00	350,000.00		
Preservation of Portage Lake and Lake Superior canals	20,000.00			20,000.00	10,000.00		10,000.00
Improving Moosabec Bar at Jonesport, Me	12,000.00			12,000.00	3,500.00		8,500.00
Improving Bagaduce River, Maine	6,800.00			6,800.00	1,000.00		5,800.00
Improving Harriseckit River, Maine	10,000.00			10,000.00			10,000.00
Improving Kennebunk River, Maine	16,500.00			16,500.00	13,100.00		3,400.00
Improving Kennebec River, Maine	5,000.00			5,000.00	5,000.00		
Improving Penobscot River, Maine	27,065.00			27,065.00	12,065.00		15,000.00
Improving Saco River, Maine	53,500.00			53,500.00	19,000.00		34,500.00
Improving Saint Croix River, Maine	35,000.00			35,000.00			35,000.00
Improving Bellamy River, New Hampshire	9,500.00			9,500.00	5,000.00		4,500.00
Improving Cocheco River, New Hampshire	22,500.00			22,500.00	22,500.00		
Improving Otter Creek, Vermont	4,950.00			4,950.00	4,950.00		
Improving Ipswich River, Massachusetts	2,395.00			2,395.00			2,395.00
Improving Merrimac River, Massachusetts	9,900.00			9,900.00			9,900.00
Improving Powow River, Massachusetts	8,000.00			8,000.00			8,000.00
Improving Taunton River, Massachusetts	1,100.00			1,100.00	1,100.00		
Removing Green Jacket Shoal, Providence River, Rhode Island	4,260.07			4,260.07	4,260.07		
Improving Providence River and Narragansett Bay, Rhode Island	19,400.00			19,400.00	19,400.00		
Improving Pawcatuck River, Rhode Island	8,013.08			8,013.08	8,013.08		
Improving Pawtucket River, Rhode Island	13,219.95			13,219.95	13,219.95		
Improving Connecticut River between Hartford and Holyoke, Conn	8,940.30			8,940.30			8,940.30
Improving Connecticut River, Connecticut	4,500.00			4,500.00	4,500.00		
Improving Housatonic River, Connecticut	35,935.00			35,935.00	33,000.00		2,935.00
Improving Mystic River, Connecticut	5,000.00			5,000.00	5,000.00		
Improving Thames River, Connecticut	22,918.00			22,918.00	19,000.00		3,918.00
Removing obstructions in East River and Hell Gate, New York	190,000.00			190,000.00	145,000.00		45,000.00

Improving Browns Creek, New York	11,500.00			11,500.00	11,500.00		
Improving East Chester Creek, New York	6,941.00			6,941.00			6,941.00
Improving Narrows at Lake Champlain, New York and Vermont	1,989.00		$301.04	2,290.04			2,290.04
Improving Great Chazy River, New York	5,000.00			5,000.00	5,000.00		
Improving Harlem River, New York	324,635.00			324,635.00	154,635.00		170,000.00
Improving Hudson River, New York	113,000.00			113,000.00	80,000.00		33,000.00
Improving Patchogue River, New York	12,500.00			12,500.00	12,000.00		500.00
Improving Ticonderoga River, New York	1,950.00			1,950.00	1,950.00		
Improving Wappingers Creek, New York	12,000.00			12,000.00	12,000.00		
Improving Mattawan Creek, New Jersey	2,500.00			2,500.00	2,500.00		
Improving Elizabeth River, New Jersey	4,500.00			4,500.00	4,500.00		
Improving Maurice River, New Jersey	8,000.00			8,000.00	8,000.00		
Improving Passaic River, New Jersey	47,350.00			47,350.00	40,100.00		7,250.00
Improving Raritan River, New Jersey	34,500.00			34,500.00	22,000.00		12,500.00
Improving Shrewsbury River, New Jersey	1,000.00			1,000.00	1,000.00		
Improving South River, New Jersey	1,694.00			1,694.00	800.00		894.00
Improving Raccoon River, New Jersey	2,242.77			2,242.77			2,242.77
Improving Squam River, New Jersey	2,000.00			2,000.00			2,000.00
Dam at Herrs Island, Allegheny River, near Pittsburg, Pa	68,594.90			68,594.90	696.67		67,898.23
Purchase of upper lock and dam, Monongahela River, between Pittsburg, Pa., and Morgantown, W. Va	323,333.13			323,333.13			323,333.13
Cost of condemnation of upper lock and dam, Monongahela River, between Pittsburg, Pa. and Morganstown, W. Va	5,102.32			5,102.32			5,102.32
Improving Allegheny River, Pennsylvania	17,056.36			17,056.36	16,505.47		550.89
Improving Delaware River, Pennsylvania and New Jersey	230,500.00			230,500.00	82,000.00		148,500.00
Improving Schuylkill River, Pennsylvania	24,500.00			24,500.00	1,000.00		23,500.00
Survey of Delaware River between Philadelphia, Pa., and Camden, N. J	4,465.28			4,465.28			4,465.28
Improving Choptank River, Maryland	7,000.00			7,000.00			7,000.00
Improving Chester River, Maryland	7,458.54			7,458.54	4,500.00		2,958.54
Improving Elk River, Maryland	7,300.00			7,300.00	6,500.00		800.00
Improving Patuxent River, Maryland	900.00			900.00	259.13		640.87
Improving Susquehanna River near Havre de Grace, Md	4,000.00			4,000.00			4,000.00
Improving Wicomico River, Maryland	10,757.06			10,757.06	10,257.06		500.00
Improving Potomac	202,000.00			202,000.00	158,521.88		43,478.12
Improving waterway from Chincoteague Bay to Indian River Bay, Virginia, Maryland, and Delaware	50,000.00			50,000.00			50,000.00
Improving Hampton Creek and Bar, Virginia	9,800.00			9,800.00	9,800.00		
Improving Aquia Creek, Virginia	6,300.00			6,300.00	6,300.00		
Improving Occoquan Creek, Virginia	5,800.00			5,800.00	5,800.00		
Improving Urbana Creek, Virginia	1,700.00			1,700.00	1,700.00		
Improving Appomattox River, Virginia	6,500.00			6,500.00	4,000.00		2,500.00
Improving Chickahominy River, Virginia	2,250.00			2,250.00	2,250.00		
Improving James River, Virginia	90,000.00			90,000.00	70,000.00		20,000.00
Improving Mattaponi River, Virginia	700.00			700.00	700.00		
Improving Nansemond River, Virginia	11,000.00			11,000.00			11,000.00
Improving Pamunky River, Virginia	700.00			700.00	700.00		
Improving Rappahannock River, Virginia	8,916.97			8,916.97	7,006.08		1,910.89
Improving Staunton River, Virginia	7,834.74			7,834.74			7,834.74
Improving York River, Virginia	19,000.00			19,000.00	6,571.87		12,428.13
Improving North Landing River, Virginia and North Carolina	2,500.00			2,500.00			2,500.00
Improving New River, Virginia and West Virginia	2,341.79			2,341.79			2,341.79
Improving Dan River, Virginia and North Carolina	39.63			39.63			39.63

Statement of appropriations under direction of the War Department for the fiscal year ending June 30, 1892, etc.—Continued.

Title of appropriation.	Balances July 1, 1891.	Appropriated July 1, 1891, to June 30, 1892.	Repayments July 1, 1891, to June 30, 1892.	Aggregate available.	Payments July 1, 1891, to June 30, 1892.	Carried to surplus fund June 30, 1892.	Balance June 30, 1892.
PUBLIC WORKS—continued.							
Harbors and rivers—Continued.							
Improving Big Sandy River, West Virginia and Kentucky	$16,000.00			$16,000.00	$5,000.00		$11,000.00
Improving Cheat River, West Virginia	5,000.00			5,000.00	5,000.00		
Improving Great Kanawha River, West Virginia	359,159.00			359,159.00	193,857.31		165,301.69
Improving Little Kanawha River, West Virginia	5,000.00			5,000.00	5,000.00		
Improving Shenandoah River, West Virginia	16,020.95			16,020.95			16,020.95
Improving waterway from Norfolk Harbor, Virginia, to Albemarle Sound, North Carolina	9,300.00			9,300.00	9,300.00		
Improving Ocracoke Inlet, North Carolina	87,000.00			87,000.00			87,000.00
Improving waterway between New River and Swansboro, North Carolina	4,200.00			4,200.00			4,200.00
Improving Contentnia Creek, North Carolina	2,000.00			2,000.00	1,000.00		1,000.00
Improving Fishing Creek, North Carolina	10,000.00			10,000.00			10,000.00
Improving Mackeys Creek, North Carolina	14,500.00			14,500.00	14,500.00		
Improving Cape Fear River, North Carolina	120,001.50			120,001.50	93,300.00		26,701.50
Improving New River, North Carolina	7,990.00			7,990.00			7,990.00
Improving Neuse River, North Carolina	10,007.85			10,007.85	1,500.00		8,507.85
Improving Lumber River, North Carolina	3,500.00			3,500.00	3,500.00		
Improving Pamlico and Tar Rivers, North Carolina	8,500.00			8,500.00	7,200.00		1,300.00
Improving Roanoke River, North Carolina	17,006.76			17,006.76	10,400.00		6,606.76
Improving Trent River, North Carolina	13.50			13.50			13.50
Improving Yadkin River, North Carolina	1,700.00			1,700.00	1,700.00		
Improving Waccamaw River, North Carolina and South Carolina	3,500.00			3,500.00	3,500.00		
Improving Mingo Creek, South Carolina	2,500.00			2,500.00	2,500.00		
Improving Ashley River, South Carolina	755.37			755.37			755.37
Improving Beaufort River, South Carolina	8,300.00			8,300.00	5,500.00		2,800.00
Improving Congaree River, South Carolina	1,500.00			1,500.00	1,500.00		
Improving Clark's River, South Carolina	2,000.00			2,000.00	2,000.00		
Improving Edisto River, South Carolina	3,000.00			3,000.00	3,000.00		
Improving Great Pee Dee River, South Carolina	8,411.75			8,411.75	5,400.00		3,011.75
Improving Little Pee Dee River, South Carolina	2,000.00			2,000.00	2,000.00		
Improving Salkiehatchie River, South Carolina	4,000.00			4,000.00			4,000.00
Improving Santee River, South Carolina	15,501.80			15,501.80	8,500.00		7,001.80
Improving Wateree River, South Carolina	12,500.00			12,500.00	7,000.00		5,500.00
Improving Jeckyl Creek, Georgia	500.00			500.00	500.00		
Improving Altamaha River, Georgia	9,000.00			9,000.00	3,000.00		6,000.00
Improving Chattahoochee River, Georgia and Alabama	5,000.00			5,000.00	5,000.00		
Improving Coosa River, Georgia and Alabama	217,018.27			217,018.27	133,004.63		84,013.64
Improving Flint River, Georgia	12,500.00			12,500.00	12,500.00		
Improving Ocmulgee River, Georgia	7,500.00			7,500.00	7,500.00		
Improving Oconee River, Georgia	4,500.25			4,500.25	4,500.25		

Improving Oostenaula and Coosawatee rivers, Georgia	499.39			499.39			499.39
Improving Savannah River, Georgia	14,500.00			14,500.00	14,500.00		
Improving La Grange Bayou, Florida	4,839.20			4,839.20			4,839.20
Improving Sarasota Bay, Florida	3,500.00			3,500.00	3,500.00		
Improving Ocklawaha River, Florida	7,500.00			7,500.00	7,500.00		
Improving Choctawhatchee River, Florida and Alabama	8,000.00			8,000.00	6,000.00		2,000.00
Improving Escambia and Conecuh rivers, Florida and Alabama	4,013.41			4,013.41	4,013.41		
Improving Manatee River, Florida	6,000.00			6,000.00			6,000.00
Improving St Johns River, Florida	134,930.05			134,930.05	80,000.00		54,930.05
Improving Withlacoochee River, Florida	4,000.00			4,000.00	4,000.00		
Improving Alabama River, Alabama	15,094.43			15,094.43	12,000.00		3,094.43
Improving Black Warrior River, Alabama	95,000.00			95,000.00	65,000.00		30,000.00
Improving Cahaba River, Alabama	3,982.00			3,982.00	3,982.00		
Improving Tallapoosa River, Alabama	3,052.15			3,052.15	3,052.15		
Improving Warrior and Tombigbee rivers, Alabama and Mississippi	70,000.00			70,000.00	55,018.48		14,981.52
Improving Yazoo River, Mississippi	12,000.00			12,000.00	10,000.00		2,000.00
Improving Tchula Lake, Mississippi	2,500.00			2,500.00	2,500.00		
Improving Chickasahay River, Mississippi	3,500.00			3,500.00	3,500.00		
Improving Leaf River, Mississippi	3,500.00			3,500.00	3,500.00		
Improving Noxubee River, Mississippi	3,000.00			3,000.00	3,000.00		
Improving Pascagoula River, Mississippi	4,975.00			4,975.00	4,975.00		
Improving Pearl River, Mississippi	21,481.00			21,481.00	12,500.00		8,981.00
Improving Mississippi River	2,596,249.19			2,596,249.19	1,912,312.00		683,937.19
Improving Mississippi River from Minneapolis to Des Moines Rapids, Minnesota, Iowa, Missouri, Illinois, and Wisconsin	330,004.64			330,004.64	253,500.00		76,504.64
Improving Mississippi River from Des Moines Rapids to mouth of Illinois River, Illinois and Missouri	95,061.18			95,061.18	71,007.95		24,053.23
Improving Mississippi River between mouths of Ohio and Illinois rivers, Illinois and Missouri	355,100.00			355,100.00	249,000.00		106,100.00
Improving Mississippi River above Falls of St. Anthony	6,000.00			6,000.00	4,404.83		1,595.17
Improving Mississippi River from St. Paul to Des Moines Rapids, Minnesota, Iowa, Missouri, Illinois, and Wisconsin	1,400.05			1,400.05	400.05		1,000.00
Reservoirs at head waters of Mississippi River	69,000.00	$15,663.17		84,663.17	53,664.01		30,999.16
Improving Des Moines Rapids, Mississippi River, Iowa, and Illinois	8,500.00			8,500.00	5,000.00		3,500.00
Gauging the waters of Lower Mississippi and its tributaries		6,000.00		6,000.00	6,000.00		
Operating snag and dredge boats on the Upper Mississippi River		25,000.00		25,000.00	25,000.00		
Removing obstructions in Mississippi River		90,970.97		90,970.97	90,970.97		
Constructing jetties and other works at South Pass, Mississippi River		125,000.00		125,000.00	125,000.00		
Examination and surveys at South Pass, Mississippi River		10,000.00		10,000.00	10,000.00		
Mississippi River Commission			$107.75	107.75			107.75
Improving Bogue Chitto, Louisiana	5,000.00			5,000.00	2,500.00		2,500.00
Improving Bayou Bœuf, Louisiana	4,000.00			4,000.00	4,000.00		
Improving Bayou Bartholomew, Louisiana	1,500.00			1,500.00	1,500.00		
Improving Bayou Black, Louisiana	319.31			319.31			319.31
Improving Bayou Lafourche, Louisiana	70,000.00			70,000.00	16,200.00		53,800.00
Improving Bayou Plaquemine, Louisiana	110,000.00			110,000.00	45,000.00		65,000.00
Improving Bayous Rondeway and Vidal, Louisiana	500.00			500.00	500.00		
Improving Bayou Teche, Louisiana	5,000.00			5,000.00	5,000.00		
Connecting Bayou Teche with Grand Lake at Charenton, La	22,100.05			22,100.05			22,100.05
Improving Bayou Terre Bonne, Louisiana	2,992.00			2,992.00			2,992.00
Improving Amite River, Louisiana			2.50	2.50			2.50
Improving Calcasieu River and Pass, Louisiana	84,877.00			84,877.00			84,877.00

Statement of appropriations under direction of the War Department for the fiscal year ending June 30, 1892, etc.—Continued.

Title of appropriation.	Balances July 1, 1891.	Appropriated July 1, 1891, to June 30, 1892.	Repayments July 1, 1891, to June 30, 1892.	Aggregate available.	Payments July 1, 1891, to June 30, 1892.	Carried to surplus fund June 30, 1892.	Balance June 30, 1892.
PUBLIC WORKS—continued.							
Harbors and rivers—Continued.							
Improving Tensas River, Louisiana	$4,500.00			$4,500.00	$1,800.00		$2,700.00
Improving Tchefuncte River, Louisiana	1,000.00			1,000.00	1,000.00		
Improving Red River, Louisiana and Arkansas	77,500.00			77,500.00	39,506.35		37,993.65
Survey of Red River, Louisiana	21,500.00			21,500.00	21,500.00		
Improving Aransas Pass and Bay, Texas	40,667.35			40,667.35			40,667.35
Improving Sabine Pass, Texas	289,400.00			289,400.00	253,400.00		36,000.00
Improving mouth of Brazos River, Texas	16,651.57			16,651.57			16,651.57
Improving Passo Cavallo, Texas	35,368.78			35,368.78			35,368.78
Improving Buffalo Bayou, Texas	9,000.00			9,000.00	7,000.00		2,000.00
Improving Cedar Bayou, Texas	18,000.00			18,000.00	16,500.00		1,500.00
Improving Trinity River, Texas	2,000.00			2,000.00	1,300.00		700.00
Improving Neches River, Texas	4,157.84			4,157.84			4,157.84
Removing obstructions in Arkansas River, Arkansas and Kansas	9,997.83			9,997.83	8,700.56		1,297.27
Improving Arkansas River, Arkansas	140,114.30			140,114.30	140,114.30		
Improving Black River, Arkansas and Missouri	1,500.00			1,500.00	1,320.34		179.66
Improving Fourche Le Fevre River, Arkansas	2,000.00			2,000.00	1,007.25		992.75
Improving Ouachita River, Arkansas and Louisiana	10,999.00			10,999.00	10,839.67		159.33
Improving White River, Arkansas	11,561.64			11,561.64	11,529.00		32.64
Improving Caney Fork River, Tennessee	1,500.00			1,500.00	1,500.00		
Improving Clinch River, Tennessee	2,500.00			2,500.00	2,500.00		
Improving Big Hatchie River, Tennessee	4,700.00			4,700.00	3,700.00		1,000.00
Improving Cumberland River above Nashville, Tenn	417,004.09			417,004.09	60,000.00		357,004.09
Improving Cumberland River, below Nashville, Tenn	34,518.08			34,518.08	19,518.08		15,000.00
Improving French Broad River, Tenn	7,000.00			7,000.00	7,000.00		
Improving Forked Deer River, Tenn	2,200.00			2,200.00	2,200.00		
Improving Hiawassee River, Tenn	1,500.00			1,500.00	1,000.00		500.00
Improving Tennessee River above Chattanooga, Tenn	16,000.00			16,000.00	15,000.00		1,000.00
Improving Tennessee River, below Chattanooga, Tenn., Alabama and Kentucky	337,003.91			337,003.91	206,150.00		130,853.91
Improving Cumberland River, above mouth of the Jellico, Ky	1,000.00			1,000.00	1,000.00		
Improving Falls of the Ohio River at Louisville, Ky	196,009.00			196,009.00	138,200.00		57,809.00
Improving Kentucky River, Ky	98,129.14			98,129.14	98,129.14		
Improving Rough River, Ky	20,000.00			20,000.00	5,000.00		15,000.00
Improving Tradewater River, Ky	485.00			485.00			485.00
Survey of the Ohio River below Pittsburg, Pa	9,565.92			9,565.92			9,565.92
Improving Ohio River, below Pittsburg, Pa	247,500.00			247,500.00	5,190.57		242,309.43
Improving Ohio River	279,093.36			279,093.36	236,585.86		42,507.50
Improving Muskingum River, Ohio	32,685.08			32,685.08	19,067.55		13,617.58

Improving Sandusky River, Ohio	1,500.00			1,500.00	1,500.00		
Operating snag boats on Ohio River, Ohio		$24,163.89		24,163.89	24,163.89		
Examination of Portage Lake and Lake Superior Ship Canals	3,0[illegible]			3,949.83	2,049.83		1,000.00
Improving Hay Lake Channel, Sault Ste. Marie River, Michigan	700,00[illegible]			700,000.00	270,000.00		430,000.00
Improving St. Clair Flats Canal, Michigan	50,00[illegible]			50,000.00	50,000.00		
Improving Black River, Michigan	9,50[illegible]			9,500.00			9,500.00
Improving Menomonee River, Michigan and Wisconsin	37,000.[illegible]			37,000.00	31,000.00		6,000.00
Improving Saginaw River, Michigan	35,000.00			35,000.00	35,000.00		
Improving St. Joseph River, Michigan	1,000.00			1,000.00	1,000.00		
Improving St. Marys River, Michigan	2,026,509.00			2,026,509.00	300,000.00		1,726,509.00
Improving St. Marys River and St. Marys Falls Canal, Michigan	182.31			182.31			182.31
Improving Chippewa River, Wisconsin	7,000.00			7,000.00	6,996.70		3.30
Improving St. Croix River, Wisconsin and Minnesota	1,500.00			1,500.00	1,500.00		
Improving Fox River, Wisconsin	67,973.84			67,973.84	40,973.84		27,000.00
Damages by improvement of Fox and Wisconsin rivers	109.00			109.00		$109.00	
Improving Minnesota River, Minnesota	9,967.00			9,967.00			9,967.00
Improving Red River of the North, Minnesota and Dakota	14,000.00			14,000.00	13,993.48		6.52
Improving White River, Indiana	3,488.00			3,488.00	1,000.00		2,488.00
Improving Wabash River, Indiana and Illinois	38,000.00			38,000.00	27,000.00		11,000.00
Illinois and Mississippi Canal, Illinois	488,000.00			488,000.00	26,550.00		461,450.00
Improving Calumet River, Illinois and Indiana	37,025.14			37,025.14	37,025.14		
Improving Illinois River, Illinois	154,284.85			154,284.85	110,000.00		44,284.85
Improving Galena River, Illinois	100,000.00			100,000.00			100,000.00
Improving Kaskaskia River, Illinois	6,000.00			6,000.00			
Improving Black River, Missouri	2,500.00			2,500.00	2,500.00		
Improving Gasconade River, Missouri	3,000.00			3,000.00	2,000.00		1,000.00
Improving Little River, Missouri and Arkansas	73.72			73.72	73.64		.08
Improving Little River, Missouri	2,500.00			2,500.00	2,500.00		
Improving Osage River, Missouri and Kansas	53,000.00			53,000.00	5,500.00		47,500.00
Improving St. Francis River, Missouri	4,985.63			4,985.63	3,651.16		1,334.47
Improving Missouri River from mouth to Sioux City, Iowa	606,037.88			606,037.88	452,000.00		154,037.88
Removing obstructions in Missouri River from St. Joseph to mouth	21,340.00			21,340.00	21,340.00		
Improving Missouri River	209,230.71			209,230.71	119,510.92		89,719.79
Improving Yellowstone River, Montana and Dakota	11,720.00			11,720.00			11,720.00
Improving Napa River, California	2,000.00			2,000.00	2,000.00		
Improving Redwood Creek, California	6,000.00			6,000.00	6,000.00		
Improving San Joaquin River, California	33,850.98			33,850.98	33,833.92		17.06
Examination and survey of Columbia River, Oregon	3,169.49			3,169.49			3,169.49
Gauging waters of Columbia River, Oregon	800.00			800.00	800.00		
Improving Columbia River at Cascades, Oregon	165,000.00			165,000.00	165,000.00		
Improving Columbia and Lower Willamette rivers below Portland, Oregon	50,000.00			50,000.00	40,000.00		10,000.00
Improving Coquille River, Oregon	10,000.00			10,000.00	9,948.48		51.52
Improving Siuslaw River, Oregon	48,500.00			48,500.60	33,500.00		15,000.00
Improving Upper Columbia and Snake rivers, Oregon and Washington	10,000.00			10,000.00	4,000.00		6,000.00
Improving Umpqua River, Oregon	6,000.00			6,000.00	5,497.27		502.73
Improving Willamette River above Portland, Oregon	3,000.00			3,000.00	1,000.00		2,000.00
Improving mouth of Columbia River, Oregon and Washington	245,000.00			245,000.00	245,000.00		
Improving Columbia River from Rock Island Rapids to Priest Rapids, Washington	20,000.00			20,000.00	10,000.00		10,000.00
Cowlitz River, Washington	3,000.00			3,000.00	1,500.00		1,500.00
Skagit, Stillaquamish, Nooksack, Snohomish, and Snowqualmie rivers, Washington	2,000.00			2,000.00	2,000.00		

Statement of appropriations under direction of the War Department for the fiscal year ending June 30, 1892, etc.—Continued.

Title of appropriation.	Balances July 1, 1891.	Appropriated July 1, 1891, to June 30, 1892.	Repayments July 1, 1891, to June 30, 1892.	Aggregate available.	Payments July 1, 1891, to June 30, 1892.	Carried to surplus fund June 30, 1892.	Balance June 30, 1892.
PUBLIC WORKS—continued.							
Harbors and rivers—Continued.							
Examinations, surveys, etc.:							
Survey for deep-water harbor, Gulf of Mexico	$766.96			$766.96			$766.96
Operation and care of canals and other works of navigation		$619,192.18		619,192.18	$619,192.18		
Amount of requisitions sent to the Treasury prior to June 30, 1892, but not paid at that date		70,151.70		70,151.70	70,151.70		
Removing sunken vessels or craft obstructing or endangering navigation		31,912.93		31,912.93	31,912.73		
Examinations, surveys, and contingencies of rivers and harbors	147,907.72			147,907.72	53,934.20		93,973.52
Total harbors and rivers	22,664,850.44	1,018,054.84	$5,303.54	23,688,208.82	13,887,533.18	$109.00	9,800,566.64
Deduct repayments in excess of payments					5,303.54		
Actual expenditures					13,882,229.64		
MISCELLANEOUS OBJECTS.							
Signal Service.							
Signal Service, contingent expenses	45.54			45.54		45.54	
Road to the signal station on Pikes Peak, Colo	10,000.00			10,000.00			10,000.00
Observation and report of storms	86,070.01	16,602.08		102,672.09	42,268.20	33,322.75	27,081.14
Signal Service:							
Medical department	643.47		548.67	1,192.14	48.41	1,031.10	112.63
Pay, etc	1,355.45		10,388.82	11,744.27	1,255.32	2,525.01	7,963.94
Subsistence			89.84	89.84		89.84	
Regular supplies	1,471.23		4,326.52	5,797.75	128.87	3,296.88	2,372.00
Incidental expenses	45.92		402.96	448.88		389.04	59.84
Transportation	2,824.11		8,744.83	11,568.94	3,532.96	4,682.24	3,353.74
Barracks and quarters			127.41	127.41		127.41	
Telegraph service between Tatoosh Island and Port Angeles, Wash	5,800.00			5,800.00	5,800.00		
Military telegraph lines		15,000.00		15,000.00	14,965.57		34.43
Total Signal Service	108,255.73	31,602.08	24,629.05	164,486.86	67,999.32	45,509.81	50,977.72
Repayments in excess of payments					24,629.05		
Actual expenditures					43,370.28		

National cemeteries.							
National cemeteries	3,482.13	100,000.00		103,482.13	100,924.92	1,423.12	1,134.69
Pay of superintendents of national cemeteries	308.66	61,100.00		61,408.66	59,934.67	202.49	1,331.50
Road from—							
Natchez to the national cemetery, Mississippi	106.29			106.29	22.64		83.65
Newberne to the national cemetery, North Carolina	12.95			12.95	3.00		9.95
Antietam to the national cemetery, Maryland	3.12			3.12			3.12
Staunton to the national cemetery, Virginia	6,000.00			6,000.00	5,765.19		234.81
Alexandria to the national cemetery, Virginia	7,000.00			7,000.00	6,996.16		3.84
National cemetery, near Mound City, to Mounds Junction, Ill		10,000.00		10,000.00			10,000.00
Road to the national cemetery—							
At Hampton, Va	2,000.00			2,000.00			2,000.00
Near Beverly, N. J	451.44			451.44			451.44
Presidio of San Francisco, Cal		10,000.00		10,000.00	9,000.00		1,000.00
Port Hudson, La	13,400.00			13,400.00	13,400.00		
Near Fredericksburg, Va	4,500.00			4,500.00	4,498.65		1.35
Approaches to the national cemetery near Culpeper, Va			.24	.24			.24
Approaches to the national cemetery near Danville, Va			442.28	442.28			442.28
Repairing roads to national cemeteries	9,004.69	15,000.00		24,004.69	5,792.58		18,212.11
National cemetery, Hampton, Va	9,750.00	2,000.00		11,750.00	11,750.00		
Levee at Brownsville national cemetery, Texas			243.00	243.00			243.00
Headstones for graves of soldiers	59,967.27	10,000.00		69,967.27	23,947.18		46,020.09
Burial of indigent soldiers		1,500.00		1,500.00	1,500.00		
Total national cemeteries	115,988.55	209,660.00	685.52	326,332.07	243,534.99	1,625.61	81,171.47
Repayments in excess of payments					685.52		
Actual expenditures					242,849.47		
Artificial limbs and appliances, and support of destitute patients.							
Maintenance of Garfield Hospital	1.87	15,000.00		15,001.87	15,000.23	1.64	
Support and medical treatment of destitute patients	1,905.98	19,000.00		20,905.98	18,999.96		1,906.02
Artificial limbs	6,032.41	366,650.00		372,682.41	360,277.80	4,508.63	7,895.98
Appliances for disabled soldiers	250.00	2,000.00		2,250.00	1,727.19	522.81	
Trusses for disabled soldiers		11,003.00		11,003.00	11,003.00		
Total artificial limbs and appliances, and support of destitute patients	8,190.26	413,653.00		421,843.26	407,008.18	5,033.08	9,802.00
Civil surveys.							
Transportation of reports and maps to foreign countries		100.00		100.00	98.23		1.77
Battle lines and sites for tablets at Antietam	15,000.00			15,000.00	7,500.00		7,500.00
Survey of road from Aqueduct Bridge to Mount Vernon	2,112.71			2,112.71			2,112.71
Survey of northern and northwestern lakes	14,531.60	12,000.60		26,531.60	12,298.80	4,424.40	9,808.40
Total civil surveys	31,644.31	12,100.00		43,744.31	19,897.03	4,424.40	19,422.88

Statement of appropriations under direction of the War Department for the fiscal year ending June 30, 1892, etc.—Continued.

Title of appropriation.	Balances July 1, 1891.	Appropriated July 1, 1891, to June 30, 1892.	Repayments July 1, 1891, to June 30, 1892.	Aggregate available.	Payments July 1, 1891, to June 30, 1892.	Carried to surplus fund June 30, 1892.	Balance June 30, 1892.
MISCELLANEOUS OBJECTS—continued.							
Miscellaneous.							
Prevention of obstructive and injurious deposits within the harbor and adjacent waters of New York City	$29,833.42	$33,000.00		$62,833.42	$27,840.18	$25,353.89	$9,639.35
Ordnance stores for Washington and Maine	373.39			373.39			373.39
Arming and equipping the militia	281,119.98	400,000.00		681,119.98	407,947.35		273,172.63
Artillery school, Fortress Monroe, Va		5,000.00		5,000.00	4,999.50	.50	
Infantry and cavalry school, Fort Leavenworth, Kans		1,500.00		1,500.00	1,500.00		
Water supply, Fort D. A. Russell, Wyo	2,958.15			2,958.15			2,958.15
Support of military prison at Fort Leavenworth, Kans	19,285.06	83,200.00		102,485.06	73,948.48	8,155.15	20,381.43
Publication of official records of War of the Rebellion	35,439.62	235,000.00		270,439.62	187,439.62		83,000.00
Reprinting war maps	98.02			98.02			98.02
Expenses of military convicts	4,177.59	5,000.00		9,177.59	2,354.08	2,405.87	4,417.64
Index of Confederate Records, War Department		14,600.00		14,600.00			14,600.00
State or Territorial homes for disabled volunteer soldiers and sailors		500,000.00		500,000.00	500,000.00		
Support of National Home for Disabled Volunteer Soldiers	56,176.50	2,447,093.95		2,503,270.45	2,248,525.82	53,183.04	201,561.59
Support of Soldiers' Home	2,390,069.93	462,189.17		2,852,259.10	388,033.98		2,464,225.12
Military stores for Montana militia	11,792.29			11,792.29			11,792.29
Investigating the mining-débris question in California			$3,766.01	3,766.01			3,766.01
Arms and quartermaster's stores for the State of Wyoming	5,666.64			5,666.64			5,666.64
Total miscellaneous	2,836,990.59	4,186,583.12	3,766.01	7,027,339.72	3,842,589.01	89,098.45	3,095,652.26
Repayments in excess of payments					3,766.01		
Actual expenditures					3,838,823.00		
War claims of States.							
Reimbursing State of Indiana for expenses incurred in enrolling her militia			1,645.10	1,645.10		1,645.10	
Examination of claims of States and Territories under act of June 27, 1882	5,689.75			5,689.75			5,689.75
Reimbursing State and citizens of California for expenses in suppressing Modoc Indian hostilities	224.25			224.25			224.25
Refunding to States expenses incurred in raising volunteers			44,477.91	44,477.91		44,477.91	
Total war claims of States	5,914.00		46,123.01	52,037.01		46,123.01	5,914.00
Repayments in excess of payments					46,123.01		
War claims of volunteers.							
Bounty to volunteers, their widows, and legal heirs	307.26	275,095.00		275,402.26	218,620.66	3,282.29	53,499.31
Pay of two and three years' volunteers	95.38	695,223.80		695,319.18	687,391.81	1,140.43	6,786.94

Bounty under act of July 28, 1866		56,810.00		56,810.00	45,518.77	1,007.98	10,283.30
Three months' pay, proper		300.00		300.00	300.00		
Horses and other property lost in the military service	3,982.95			3,982.95	2,464.35		1,518.60
Bounty to Fifteenth and Sixteenth Missouri Cavalry Volunteers		600.00		600.00	600.00		
Commutation of rations to prisoners of war in rebel States and to soldiers on furlough	1,902.01	26,014.50		27,916.51	26,602.75	19.00	1,294.76
Services and supplies of Montana volunteers in Nez Percé Indian war	657.00			657.00			657.00
Providing for the comfort of sick and discharged soldiers	1.92			1.92			1.92
Extra pay to officers and men who served in the Mexican war		1,000.00		1,000.00	1,000.00		
Capture of Jefferson Davis	1,503.38			1,503.38			1,503.38
Total war claims of volunteers	8,449.90	1,055,043.30		1,063,493.20	982,498.34	5,449.65	75,545.21
Erection of monuments.							
Trenton battle monument, Trenton, N. J	30,000.00			30,000.00	10,000.00		20,000.00
Statue to memory of Lafayette and compatriots	1.62			1.62			1.62
Pedestal for statue of—							
General Philip H. Sheridan	50,000.00			50,000.00			50,000.00
General John A. Logan	50,000.00			50,000.00			50,000.00
General Winfield Scott Hancock	50,000.00			50,000.00	1,000.00		49,000.00
Total erection of monuments	180,001.62			180,001.62	11,000.00		169,001.62
Relief acts.							
Claims of officers and men of the Army for destruction of private property		1,406.48		1,406.48	1,406.48		
Claims of loyal citizens for supplies furnished during the rebellion	6,939.00			6,939.00			6,939.00
Claims for quartermaster's stores and commissary supplies	2,046.73			2,046.73			2,046.73
Awards for quartermaster's stores and commissary supplies taken by Army in Tennessee	130.00			130.00			130.00
Stores and supplies taken by the Army (Bowman Act) March 3, 1891		337,080.98		337,080.98	337,080.98		
Tents for sufferers from floods in Arkansas, Mississippi, and Louisiana			1.12	1.12			1.12
Relief of destitute citizens, Territory of Oklahoma	44,800.00			44,800.00			44,800.00
Relief of sufferers from overflow of Mississippi River and its tributaries	582.79			582.79	130.81		451.98
Relief of Richard Trabue and others	113.66			113.66			113.66
Relief of James A. Terrill		1,759.66		1,759.66	1,759.66		
Relief of Edward S. Armstrong		1,673.14		1,673.14	1,673.14		
Payment to Buffalo Bayou Ship Channel Company for value of improvements in Galveston Bay, Texas		92,316.85		92,316.85	92,316.85		
Relief of Washington L. Paroin		991.10		991.10	991.10		
Relief of Mary A. Lee, mother of Walter G. Lee		1,190.73		1,190.73	1,190.73		
Relief of Luther M. Blackman		395.03		395.03	395.03		
Relief of Alfred Worcester		440.20		440.20	440.20		
Total relief acts	54,612.18	437,254.17	1.12	491,867.47	437,384.98		54,482.49
Repayments in excess of payments					1.12		
Actual expenditures					437,383.86		

Statement of appropriations under direction of the War Department for the fiscal year ending June 30, 1892, etc.—Continued.

RECAPITULATION.

Title of appropriation.	Balances July 1, 1891.	Appropriated July 1, 1891, to June 30, 1892.	Repayments July 1, 1891, to June 30, 1892.	Aggregate available.	Payments July 1, 1891, to June 30, 1892.	Carried to surplus fund June 30, 1892.	Balance June 30, 1892.
Salaries, contingent expenses, and postage	$74,961.80	$2,034,430.00	$71.20	$2,109,463.00	$2,016,616.85	$26,226.09	$66,620.06
Military establishment, Army and Military Academy	2,171,532.83	25,011,696.73	78.58	27,183,308.14	23,404,612.41	687,049.50	3,091,646.14
Public works	35,691,419.89	2,759,656.06	9,873.30	38,460,949.25	19,871,057.26	4,193.27	18,585,696.72
Miscellaneous objects	3,350,045.14	6,345,805.67	75,204.71	9,771,145.52	6,011,911.86	197,264.01	3,561,969.65
Total	41,287,959.66	36,151,678.46	85,227.79	77,524,865.91	51,304,198.38	914,732.96	25,305,934.57
Repayments in excess of payments					85,227.79		
Actual expenditures					51,218,970.59		

REPORT

OF THE

MAJOR-GENERAL COMMANDING THE ARMY.

REPORT

OF THE

MAJOR-GENERAL COMMANDING THE ARMY.

HEADQUARTERS OF THE ARMY,
Washington, September 30, 1892.

SIR: I have the honor to submit, herewith, the annual reports of the commanding generals of the several geographical departments, including those of their chief staff officers; of the commanding officers of the Artillery School, the Infantry and Cavalry School, and the Cavalry and Light Artillery School, and of the Adjutant-General and the Inspector-General of the Army. These reports give full information of all the operations of the troops during the past year, of the administrative work of the several staff officers serving with troops, of the stations and strength of the various organizations of the Army, of the state of discipline and instruction of the troops, including practice with small arms and artillery, and the recommendations of the several commanders for the benefit of the military service. These reports, together with those of the Chiefs of Engineers and Ordnance, of the administrative staff departments, and of the Superintendent of the Military Academy, will give you full information of all the details of the military service.

IMPORTANT SERVICES.

Domestic violence in some of the States has rendered necessary the use of military force in support of the civil authorities. Fortunately, in all cases save two, the State troops have proved entirely adequate to the emergency, and they have reflected honor upon the National Guard organization of the country by their prompt movements, admirable discipline, and faithful discharge of duty. In the case of the young State of Idaho the militia organization had not yet reached the strength necessary to cope with a very formidable insurrection, which had involved much destruction of life and property in the Cœur d'Alene mining region. Hence, upon the call of the governor and the order of the President, troops were promptly sent to that region in sufficent force to overawe the insurgents, prevent any further loss of life or property, and arrest a large number of those accused of participation in the insurrection. The report of Brig. Gen. Ruger, commanding the department, and that of Col. William P. Carlin, Fourth Infantry, commanding the troops in the field, give, in detail, all the operations in that service. The conduct of the troops was entirely satisfactory in all respects, and the good judgment and wise discretion exercised by Col. Carlin, under trying circumstances and conflicting demands from

persons representing opposing interests, merited high commendation. It was due to Col. Carlin's discretionary action that no further destruction of life or property occurred, while peace and order and submission to law were restored. This service of Col. Carlin was the culmination of a long and distinguished career. I take great pleasure in recommending him to the special consideration of the President.

In Wyoming it has also been necessary to employ troops to prevent conflict between armed parties of citizens.

Other special services, of less importance, have been rendered by the troops in various parts of the country, involving, especially on the Mexican border, much labor, exposure, and hardship. All these services are fully reported by the department commanders.

INSTRUCTION AND DISCIPLINE.

The state of discipline and of military instruction throughout the Army is highly satisfactory. The new drill regulations for infantry, cavalry, and light artillery were placed in the hands of the troops at the commencement of the present practice season, and all available time has been devoted to instruction therein. The reports upon these new regulations, both from the regular troops and from the National Guards of the several States, have been satisfactory, and justify the belief that, with the corrections in minor details which can only come from general use and free criticism, the new system will fully meet the necessities of modern tactics.

SMALL ARMS AND FIELD ARTILLERY.

A board of officers appointed by the Secretary of War, after long and thorough experimental tests of all the magazine small arms submitted, has selected the weapon best adapted to all the conditions of the service. The report of that board having been approved, the troops of the United States may now be supplied with arms equal to the best in the world. It is earnestly recommended that no time be lost in providing a full supply of these arms for the regular troops and the organized militia of the several States, and also a considerable reserve supply for issue to volunteers whenever the latter may be called into service.

It is also respectfully urged that the necessary appropriation be made for a full supply of the most approved breech-loading rifled field guns for the light batteries of both the regular and volunteer troops. All will admit that the troops of the United States should be armed with the best weapons in the world.

FORTIFICATION AND ARMAMENT.

Under the wise legislation of the past few years a substantial beginning has been made in the fortification and armament of the seacoast of the United States, as well as in the construction of a new navy worthy of a great and prosperous country. It is assumed that this recent legislation has established a settled public policy, to be steadily adhered to until the preparations for national defense are such that no foreign nation will venture to disturb the peace of this country. It is therefore thought necessary only to urge that there be allowed no lapse in the annual appropriations necessary to the continued prosecution of this great work.

BARRACKS AND QUARTERS.

In connection with the new defenses of the seacoast, the time has now arrived when the necessary barracks and quarters should be provided for the artillery garrisons of posts which have long been unoccupied. The demands upon the Army for other service, for many years after the close of the late war, were thought to require the withdrawal of all garrisons from many important seaports. Hence, not only were no modern defenses constructed, but the old fortifications were allowed to fall into decay, and with them the barracks and quarters necessary for the accommodation of troops. The mouth of Delaware River, and all the important harbors upon the coasts of North Carolina, South Carolina, Georgia, Florida, Alabama, Louisiana, and Texas, have remained ungarrisoned and defenseless for many years. The construction of modern defenses for all these important points will demand the early attention of the Corps of Engineers, and the Ordnance Department will soon be able to commence providing the appropriate armament for all those defenses. The moment a new gun is placed in position the artillery troops must be there to care for and use it. I respectfully recommend that estimates be prepared and submitted to Congress, at the next session, for the appropriations necessary for barracks and other buildings at all the sea-ports above mentioned.

On account of its great importance in connection with naval operations, and as a place of refuge for mercantile marine, provision has already been made, out of the current appropriation for the present year, to regarrison Key West, Fla. This was possible for the reason that the old buildings at Key West could be made habitable by repairs at a moderate cost. But in all the other cases new buildings must be constructed in suitable locations relative to the new defenses, and the cost will be much too great to be borne by the ordinary appropriations for construction, repairs, etc. Hence, I respectfully suggest special appropriations for each of the places named, or a lump sum for this specific purpose, to be apportioned by the Secretary of War among the seaports requiring new barracks and quarters.

REORGANIZATION OF ARTILLERY AND INFANTRY.

In connection with this important subject of the defense of the seacoast, I desire to again urge the passage of the measure now before Congress providing for the reorganization of the artillery into seven regiments. This measure was based upon an accurate calculation of the number of batteries and number of men actually required in time of peace for the care of the projected fortifications and armament. It does not necessarily involve any actual increase in the numerical strength or in the annual expense of the Army, but only such change of organization as will fully adapt the Army to the service for which it is maintained, and at the same time create a moderate flow of promotion in lieu of the stagnation which has for many years seriously interfered with the full efficiency of the artillery.

For like reasons I desire also to again urge the passage of the measure now before Congress for the reorganization of the infantry, so that each regiment shall be composed of two or three small battalions, instead of one large and unwieldy battalion as at present. This change is necessary to adapt the organization to the requirements of modern tactics, and does not necessarily involve any question as to the aggre

gate force which Congress may see fit to maintain in time of peace. However small the permanent force may be, the organization should manifestly be that which is best adapted to the service required, including maneuvers in the field, and which will most readily admit of expansion in time of war. All military authorities now agree that the small battalion organization is the best in all respects. If this organization is established, then the number of battalions in a regiment, and the numerical strength of each, may be changed from time to time, to meet the exigencies of the service.

It is worthy to be always borne in mind that the number of troops estimated as necessary to be maintained in time of peace is only a very small fraction of the number which would certainly be requisite in time of war.

The strength of infantry, cavalry, and field artillery forces which might be required in war with a foreign power does not admit of very accurate estimate in advance. Not so in respect to the seacoast artillery. War with any considerable maritime nation would require that all the seacoast defenses of this country be fully manned. The force requisite for this purpose has been very accurately estimated at 85,000 men; while the peace garrisons estimated as necessary for the care of these defenses and instruction of the militia reserves is only 4,200 men, or not more than one-twentieth of the war garrisons. Nineteen-twentieths of the war garrisons must be drawn from the local militia. Manifestly a considerable portion of this artillery reserve should receive some instruction in time of peace. Hence, attention is again invited to the importance of organizing in the seacoast States an artillery reserve, to be instructed annually in connection with the regular seacoast garrisons. Measures in this direction have already been adopted in some of the States, and these should be extended throughout all the States bordering on the oceans and gulf.

MILITARY EDUCATION.

Military education, not only in the regular Army, but in the country at large, has made very many gratifying advances in the present generation. The Military Academy at West Point fully maintains its traditional high character. The Engineer School at Willets Point, the Artillery School at Fort Monroe, and the Infantry and Calvary School at Fort Leavenworth have steadily grown into special postgraduate schools of great excellence, where young officers are thoroughly grounded in the higher branches of the special services, and where those who are capable and ambitious of acquiring a general knowledge of all branches of the military art, to fit them for general staff duties or high commands, may have opportunities for broad and diversified observation and studies. The Military Service Institution, a voluntary organization of officers of the Army for mutual improvement, the privileges of which are extended to officers of the National Guards of the States, fostered by Gens. Sherman and Sheridan while they commanded the Army, and presided over by the senior major-generals, has now for many years been the constant means of widespread increase in the most advanced studies of the science and art of war. The recently established system of lyceums, for the mutual improvement of officers at all military posts, is the logical outgrowth of the Military Service Institution, and is destined to still further extend the steady prosecution of the higher military studies among all young officers of the Army. The post

schools for enlisted men alone have failed so far to reach the high standard to be desired. This is solely due to the lack of necessary legislation to provide for the compensation of competent teachers. Earnest efforts have been made in this direction by devolving this duty as far as possible upon commissioned officers. But this means is inadequate, and it is hoped the necessary authority of law will be given to compensate educated men to be enlisted as teachers. The detail provided for by law of a large number of officers as instructors in colleges and schools throughout the country has already produced very manifest and marked results. Nearly every public parade now witnessed has for its most interesting feature the march of long columns of young school boys whose military bearing would do honor to the best disciplined old soldiers. More important perhaps than all else, the organized militia of many of the States, or National Guards, mostly under the instruction and command of officers who gained their military education in the late war, have become far better disciplined and more reliable than any similar organization before existing in this country. Such a standard of excellence once established by the rough experience of war and transmitted by the survivors to younger men, as has now been done, can easily be maintained in succeeding generations. It may now be reasonably expected that the militia of this country will be a reliable military force for many years to come, and it should be fostered and encouraged in every appropriate way.

Modern advances in the art and science of war require a much higher education, not only of officers, but of all ranks in the Army. It is now becoming impracticable to retain in the service men of the character and intelligence required for efficient noncommissioned officers. Such men can obtain much higher remuneration in civil pursuits. While comparatively short service of private soldiers is not seriously injurious, comparatively long service of noncommissioned officers is essential to the discipline and efficiency of an army, little less so than in the case of commissioned officers. I therefore respectfully urge a considerable increase in the pay of all noncommissioned officers of the line of the Army.

INDIAN SOLDIERS.

The results thus far obtained by the enlistment of a few Indian troops and companies into the regular regiments are entirely satisfactory. The young Indians become obedient, subordinate, and contented soldiers, instead of a restless and dangerous element among their tribes. It will not be difficult to determine by experience how far this policy must be pursued to fully accomplish the objects had in view.

THE RECRUITING SERVICE.

The recruiting service has greatly improved in recent years under the constant care of the Adjutant-General of the Army, Brig. Gen. J. C. Kelton, now retired, and the efficient management of Col. Elwell S. Otis, superintendent of the recruiting service. The medical department has rendered valuable aid in the detection and rejection of unworthy or undesirable recruits, such as have heretofore furnished the largest proportion of desertions from the Army. Other beneficent measures, including recent legislation, have also combined to produce a greater degree of contentment in the Army than before existed, and hence to diminish the percentage of desertions.

THE STAFF AND THE LINE OF THE ARMY.

For many years the harmony of the War Department was disturbed and the efficiency of the military service impaired by conflict of assumed authority between the staff departments and the commanding officers of the Army. But wiser theories of administration and more moderate views of the authority of subordinates have been gradually established, until the right to exercise independent authority, within the command or administrative sphere of a superior, is now rarely claimed and all departments of the military service generally work in harmony and due subordination, to carry into effect the requirements of law and the orders of the President and Secretary of War.

I take pleasure in acknowledging my indebtedness to the staff departments of the Army for their cordial assistance and in recording my testimony to the faithful and efficient discharge of their duties. The troops of the line have, during the past year as always theretofore, merited the commendation of the Commanding General.

I have the honor to be, sir, your obedient servant,

J. M. SCHOFIELD,
Major-General Commanding.

Hon. STEPHEN B. ELKINS,
Secretary of War.

REPORTS

TO THE

MAJOR-GENERAL COMMANDING THE ARMY.

REPORT OF THE ADJUTANT-GENERAL.

HEADQUARTERS OF THE ARMY,
ADJUTANT-GENERAL'S OFFICE,
Washington, October 1, 1892.

GENERAL: Pursuant to your instructions, I have the honor to submit the annual returns of the Army:

A.—Showing the actual strength of the Army June 30, 1892.

B.—Showing position and distribution of the troops by departments, taken from the latest returns on file in the Adjutant-General's Office.

C.—Geographical departments and posts, with distribution of troops, post-offices, telegraph stations, and nearest railroad stations and boat landings.

D.—Statement showing gain and loss in the enlisted strength of the Army during the fiscal year ended June 30, 1892.

The number of enlisted men now in service, June 30, 1892, who are drawing increased pay under the act of Congress of August 4, 1854, is as follows:

Five years' continuous service ($2 per month)	4,180
Ten years' continuous service ($3 per month)	1,745
Fifteen years' continuous service ($4 per month)	976
Twenty years' continuous service ($5 per month)	653
Twenty-five years' continuous service ($6 per month)	206
Thirty years' continuous service ($7 per month)	10
Thirty-five years' continuous service ($8 per month)	1
Forty years' continuous service ($9 per month)	1

The number of those who will become entitled to increased pay under the act of Congress of May 15, 1872, during the fiscal year ending June 30, 1894, is:

Reënlisted pay	405
One dollar per month for third year of service	6,476
Two dollars per month for fourth year of service	4,134
Three dollars per month for fifth year of service	2,651

And the number of enlisted men whose terms will expire during the fiscal year ending June 30, 1894, is 3,051.

THE MILITARY PRISON.

The annual report of the commandant of the Military Prison and the subreports of the other officers on duty there (herewith submitted) show very clearly the management of the affairs of the prison during the year, and indicate an excellence in the discharge of the im-

portant duties devolving upon the commandant and his officers which is highly gratifying.

The number of prisoners in confinement June 30, 1891, was 378; the number received during the year, 325; and the number lost by discharge, etc., 308, leaving in confinement June 30, 1892, 395, an increase of 17.

The provost guard numbers 107 men, and are mentioned as well instructed, disciplined, and faithful in the performance of their duties.

The appropriation for maintaining the prison for the year ended June 30, 1892, was $83,200, of which only $73,702.90 was expended, and this includes the expenditure of $1,015 for donations to 203 prisoners (at $5 each) released from confinement at Alcatraz Island and other military posts, leaving the actual expenditures at the prison $72,689.90, a decrease in expense with an increase in the number of prisoners. In addition to the donations of money above mentioned, the prison furnished 200 suits of civilian clothing for prisoners released from confinement at military posts.

The change, so far as effected, from a dormitory to a cellular prison, under the authority granted by the Secretary of War, is regarded by the commandant as the most important one ever made, as it enables him to fully control the bad element, which was not possible under the dormitory system, and will prove of incalculable benefit to the well-disposed prisoners as well as increase the discipline of the prison.

The various industries were carried on with diligence, and the prisoners appear to have been usefully employed.

There were manufactured during the year 1,524 pairs of boots, 20,565 pairs of shoes, 3,257 barrack chairs, 4,059 mess stools, 218 mess tables, 23 mess benches, 22 company field desks, 1,216 sets of harness, 2,207 tin boilers, 15,553 joints of stovepipe and elbows, 468 teakettles, 200 coffeepots, 1,034 sheet-iron pans, 22,375 corn brooms, 4,000 whisk brooms; also the following articles of clothing for prisoners in confinement at Alcatraz Island: 155 coats, 350 pairs trousers, 350 shirts, 350 pairs drawers, and 150 overalls, besides large quantities of necessary articles. The total number of days of skilled labor performed by the prisoners was 44,625, and the number of days of unskilled labor, 78,680; of this number, 22,674 days of skilled labor and 12,796 of unskilled were performed for the Quartermaster's Department, amounting in value to $19,665.78. It may also be mentioned that 445 cords of wood were cut on the reservation and taken up on the property returns, and 99,400 bricks made for use in building a storehouse, etc.

The yield of the prison farm was not as large as that of the preceding year owing to unusual rains, but the loss in value, it is reported, was made up by the cutting of nearly 36 tons of hay from the ground inundated during the early part of the season. The products of the farm were 2,300 bushels of corn, 1,100 bushels of potatoes, 6,000 heads of cabbage, and 2,073 bushels of various other kinds of vegetables, which, added to the regular rations, provided a variety of good food and sufficient in quantity.

The prison fund, made up from various earnings of the prisoners' labor and the sale of miscellaneous material, amounted to $1,392.91, and was turned in to the United States Teasury.

The prison mess fund had $2,262.77 to its credit June 30, 1891; the amount saved during the year was $4,289.37, and the amount expended $4,316.84, leaving $2,235.30 on hand June 30, 1892.

There were fourteen escapes and seven recaptures during the year.

The health of the prison has been generally good, although two members of the guard and five prisoners died during the year.

The moral and mental improvement of the prisoners has received the special attention of the chaplain, whose efficient labors in his field will surely bring good results.

DESERTION.

It is gratifying to note that the number of desertions from the Army is steadily decreasing. The number—2,344—reported as having occurred during the year 1888–'89 was reduced the following year to 1,503, and for the fiscal year ended June 20, 1892, was further reduced to 1,382, only a fraction over 5 per cent of the legal enlisted strength of the Army.

While much stress has been laid in the past on the question of desertion with the view of inducing Congress to give effect, by legislative enactment, to the several remedial measures recommended by this office, it is an undoubted fact that the present *morale* of the rank and file of the Army is very good, and that, compared with an equal number of men of the same class in civil life, the enlisted men are not inferior with respect to intelligence, sobriety, and faithfulness.

DISCHARGES.

The act of June 16, 1890, to prevent desertions from the Army, provides that three years after enlistment every soldier whose service has been faithful shall be entitled to a furlough for three months, with the privilege, in time of peace, of obtaining his discharge at its expiration. Section 4 of the same act permits any enlisted man to purchase his discharge from the service under such rules and conditions as the President may prescribe.

The rules prescribed by the President and published in General Orders No. 81, of 1890, confined the right of discharge by purchase to soldiers in the second and third years of their first enlistment, and fixed the money consideration therefor. Men who had served ten years or more were to be classified as "veteran soldiers," who could be granted a discharge, by way of favor, so far as the interests of the service would admit or the merits of each case justify; and the rule was announced that soldiers discharged under the provisions of this law shall not be eligible to enlist again for one year from the date of discharge.

The preponderance of military opinion, as ascertained from special reports on the subject by post commanders, being against the advisability of so long a period of exclusion, the term was reduced to six months by General Orders No. 96, of 1891, and finally fixed at two months by General Order No. 32, of May 10, 1892. This last order further modified General Orders No. 81, of 1890, by increasing to twelve years the period of service necessary to classification as veteran soldiers, and announcing that no soldier once discharged as a veteran will be again discharged by way of favor.

The number of men discharged as veterans after three years' service and by purchase during the fiscal year ended June 30, 1892, and the number of men so discharged who reëntered the service during the same period, is as follows:

	Discharged.	Reëntered the service.
Veterans	206	51
Three years' men	880	94
By purchase	1,452	142

As under existing conditions the term of enlistment is practically reduced to three years—good men who have served that portion of their term of service being allowed to obtain their discharge—it would seem evident that the objective of the law of June 16, 1890, would be reached equally as well, if not better, by making the first enlistment a term of three years with the privilege of reënlisting within three months from date of discharge. In addition to the beneficial effects of the present law, a first term of three years would relieve the ranks from the inferior soldiers who, unable or unwilling to purchase their discharge, encumber the rolls of the Army for the full period of their present term of service; and, furthermore, the Government would be saved the expense attending the three months' furlough now granted to three years' men prior to their final discharge from the service.

FRAUDULENT ENLISTMENT.

Of the evils which afflict the Army and impair its discipline and resources, none have been, in the past, more difficult of detection than that of fraudulent enlistments. They have ever been a potent factor of desertion by introducing in the ranks a sometime vicious but always demoralizing element. The many kinds of enlistments coming under that head are, briefly, enlistments secured by concealment of minority, marriage, or having dependent relations, obscure but disabling physical defects, prior dishonorable service, etc. To punish this class of offenders no legal means existed until July 27, 1892, the date of the law declaring that, after sixty days from its passage, fraudulent enlistment and the receipt of any pay or allowances thereunder shall be a military offense, punishable under the Sixty-second Article of War.

The admirable system of "identification cards," devised, perfected, and now in use by the Surgeon-General's Office, insures swift and almost certain detection of fraudulent enlistments; but the scheme does not prevent, but merely exposes, them. The law above referred to provides the means of prevention. The systematic distribution of these cards throughout the Army, coupled with swift and exemplary punishment awarded convicted offenders, will undoubtedly largely decrease if not altogether obliterate this class of offenses, so detrimental to the best interests of the military service.

RETAINED PAY.

The first section of the act approved June 16, 1890, provides for the retention of $4 per month of the monthly pay of each enlisted man of the Army for the first year of his enlistment, which sum shall not be paid him until his discharge from the service, and shall be forfeited unless he serves honestly and faithfully to the date of discharge.

This provision is intended, as indicated by the title of the act, to prevent desertion and to some extent protect the Government against the pecuniary loss resulting from the discharge, within the first year, of men discharged from the service for such causes as minority, habitual drunkenness, former dishonorable discharge, etc., which they had successfully concealed on enlistment. It is also beneficial to the faithful soldier, for the law further provides that the sums so retained shall be treated as deposits and shall bear interest from the end of the year of the soldier's enlistment in which they shall have accrued.

As it stands, however, the law embraces a class of men concerning whose antecedents the Government has full information—those with

previous honorable service in the Army. There seems to be no reason whatever for subjecting to retention of pay men who have established their good character as soldiers by faithful service in one or more previous enlistments, and I beg, therefore, to recommend that the law above cited be amended by inserting "first" before "enlistment" where this word first occurs in the first section of that act, so as to limit the retention of $4 per month, for the first year of enlistment, to men who have not had prior service in the Army.

PAY OF NON-COMMISSIONED OFFICERS.

It is admitted by all military authorities that, owing mainly to the use of improved weapons and the consequent adoption of a new system of fighting, the efficiency of an army depends, in a greater degree than ever before, upon the qualifications, intelligence, and moral stamina of its non-commissioned officers.

The present pay and emoluments of this important and valuable class are altogether disproportionate to its duties and responsibilities, and I urgently recommend that the attention of Congress be called to the necessity of establishing a just scale of remuneration for the several grades of noncommissioned officers. Such a measure is demanded alike by regard for the greatest efficiency of the Army, justice to the men whose pay is inadequate to their rank and duties, and for the creation of a soldierly rivalry among the enlisted men in the ranks to earn advancement to even the lowest grade in that honorable class.

MARCHES, ETC.

Owing to the military operations and changes of troops during the Indian troubles in the past winter, the concentration of troops in the Department of the East for practice marches, etc., was omitted during this summer and the troops at the several posts in that Department were directed to engage in such field exercises as could be had through post transportation and supplies, without increased expenses.

In view of the recent adoption of new drill regulations for the three arms of the service, orders were issued in the spring directing thorough instruction of the troops in the new regulations, coupled with a critical examination of their practical working, and, for this purpose, commanders of departments were authorized to unite the garrisons of different posts so far as could be done by marching without cost for transportation.

GYMNASTIC TRAINING.

I can not urge too strongly upon the Major-General Commanding the importance of gymnastic training to the enlisted men of the Army. During the year a manual of calisthenics has been prepared and will soon be distributed among the several military commands. The system of calisthenic training now in use at the Military Academy has been adopted as the basis of this manual, and its use in connection with the setting-up drills has been approved. No apparatus is necessary and no expense will be incurred in the introduction of the system, which is expected to serve as a preparatory course for a more elaborate system of athletic training. It is hoped that the experimental gymnasiums which have been established at the several recruiting depots will be so developed in the near future as to enable them to be used as training schools,

to which noncommissioned officers may be sent to undergo a course of physical training under the close supervision of officers of the medical department, with a view to their being assigned to regiments and companies as instructors in athletic exercises. In this connection I venture to express the hope that the excellent course of gymnastic training which now prevails at the Military Academy may be so extended as to include the whole or a greater part of the academic course and thus supply the Army with accomplished and proficient instructors in this important department.

POST LYCEUMS.

By General Orders, No. 80, of October 5, 1891, it was directed that on November 1, 1891, or as soon thereafter as practicable, an officers' lyceum be established at every post in the Army garrisoned by troops of the line, the post commander, as president, to prepare a carefully considered scheme of theoretical instruction and, in addition, to assign annually to every officer belonging to the lyceum a selected professional subject for original investigation and written report.

It is evident from reports received that the officers' lyceum has proved a great success and that already much good has resulted therefrom. As improvements in method are indicated by greater experience in the management of these institutions still greater results can confidently be expected. The object of their establishment was to give officers an incentive to study and by providing them subjects on which to make individual research to stimulate professional zeal and ambition. Many of the papers read are reported as possessing special interest and value. I recommend that copies of the yearly monographs prepared by members of the several lyceums be furnished the Adjutant-General for the division of military information, with a view to such further use of the papers as the Secretary of War may authorize.

Every year valuable books are purchased by the War Department for distribution to the permanent post libraries; but no provision exists for needed repair, and it is reported that very many volumes are going to ruin for want of a small fund for that purpose. As the fund which furnishes the means of purchasing the military books and professional works of reference distributed to the Army is clearly the proper one chargeable with the cost of their necessary repair, I beg to recommend that, if deemed necessary, Congress be asked to increase the "Contingent fund of the Army" by a specific sum, for the sole purpose of repairing the valuable books in the several post libraries.

POST EXCHANGES.

The progress of the post-exchange system, inaugurated in 1889 as a substitute for the trader's store, has been most satisfactory and gratifying during the past year. Of the 85 traders' stores that were in operation in 1889 but 14 now exist, and of this number three will close on the 1st of December next, one on April 1, 1893, and three others which are allowed to remain open upon contingencies that will likely be determined within a few months. It is probable, therefore, that by the end of the next fiscal year the post-trader system will be practically eliminated from the army administration, and only such traders' stores will remain as are located at posts in Arizona and the Indian country remote from the railroads, where they are perhaps a convenience to such isolated garrisons and to citizens scattered about the adjoining vicinity.

In February last, upon the ground that the term "canteen" possibly conveyed to the public mind a meaning which, though foreign to the main purpose of the institution, has been for years associated in other armies with a place of conviviality and dissipation, the Secretary of War decided to change the name of such establishments to that of "post exchange." Exchanges are now in successful operation at 85 posts, the majority of the 11 garrisoned posts at which there is no exchange being located in the vicinity of large towns or on Indian reservations, where their establishment is deemed inexpedient.

During the year ended June 30, 1892, these exchanges have been successfully operated, furnishing enlisted men with many articles of comfort or convenience, at greatly reduced cost as compared with post-trader's prices, and with a resulting profit (exclusive of 10 per cent payable into the band fund at posts where bands are maintained) of about $212,000, the greater portion of which was returned to the companies and devoted to the improvement of their messes. The total appraised net valuation of the stock and fixtures of the exchanges now in operation in the Army, all of which are practically the property of the soldiers, amounted in the aggregate, January 1, 1892, to $127,718.39.

That the establishment of post exchanges has resulted directly in the improvement of the *morale* of the men and of military discipline is the conclusion reached by the great majority of those best qualified to determine the question, viz, commanding officers of posts. The following extracts from reports received from them during the past year are both interesting and instructive:

Fort McIntosh.—It has had the effect of making the men more contented. Since its establishment they have had less disposition to visit the town and spend their time in drinking saloons. There are fewer absences without leave, less drunkenness, and the number of trials by summary court has been greatly reduced. I consider that a well-regulated and well-conducted canteen has a very beneficial influence on the discipline and morals of my command.

Fort Thomas.—The success of the canteen so far has been in all respects satisfactory. The enlisted men are more contented and do not visit the neighboring saloons so much as they did before the canteen was opened.

Fort Mason.—The effect of the canteen on the morals of the men is decidedly good. Extremely few cases of drunkenness have come to the notice of officers of the post. It may safely be asserted that the canteen has proved of the greatest benefit, both morally and financially, to the garrison.

Fort McKinney.—Since my assuming control of this post, June 9, 1891, I am satisfied that the abandonment of post traders' stores and establishing the canteen system in lieu thereof is of immense benefit, not only to the enlisted men of the Army, but to officers and their families—to the men, as it tends to keep them away from disreputable drinking places and their usual adjuncts, which are so frequently found on the border of military reservations on the frontier (of course the viciously inclined, of whom there are at all posts some to be found, will not be benefited by any devisable system). I believe, therefore, the canteen, conducted in accordance with present regulations and orders, has a good moral effect and adds materially to the contentment of the soldier. It benefits the officer and his family, as it affords a means of making purchases for his household without having to pay the enormous prices for articles formerly charged by the post trader.

Fort Gaston.—The work of the canteen has been entirely satisfactory and, judging from results, I do not well see how more could be expected from the system. There has been no drunkenness here and not a court of any kind since my company reached the post, September 16, 1890. Pay day, which under the old system was always to be dreaded, is now only marked by the presence of the paymaster at the post. The wonder to me is that the old system, with its attendant evils and no apparent good, was tolerated by Army officers for so many years.

Fort Sam Houston.—The canteen here is a success. A well-conducted clubhouse, healthy in its tone, it tends to the moral improvement and material comfort of the men. They recognize that they are no longer driven to low grogshops and gambling dens. In my judgment the canteen proves one of the strongest factors we have for the encouragement of sobriety.

Fort Custer.—As to the effect upon the welfare of my command, the canteen is a great success in every way over the old post-trader system.

Cavalry Depot, Jefferson Barracks.—Frankness requires the acknowledgment that I was strongly opposed to the establishment of the general mess and canteen, as it was first called. I have no complete knowledge of the results of a fair trial of this institution in regular garrisons, but I have no hesitation in saying that, without a doubt, it is better to abolish the depot entirely than to abolish these institutions and return to those of former years.

By the Army appropriation law for the fiscal year ended June 30, 1891, the sale of beer or wine in any canteen or post trader's store was prohibited in any State or Territory in which the sale of alcoholic liquors, beer, or wine is prohibited by law. The effect of this prohibition was to stop the sale of beer in the exchanges at posts located in the States of Kansas and the Dakotas. The commanding officers of those posts report as follows:

Fort Leavenworth, Kans.—Although Kansas is nominally a prohibition State, the prohibition law is openly set at nought. In the town of Leavenworth, adjoining this post, there are several hundred saloons engaged in the selling of beer or liquor, and licenses to sell are granted with little or no question by the authorities. Yet because the law is upon the statute book and this post is within the limits of a prohibition State, the post canteen is not allowed to sell beer or any intoxicating drink. The consequence is that after the men are paid off they resort to the town and there spend their money in the saloons, returning to the post, many of them, badly under the influence of liquor. Absence from duty and summary courts follow, with fines and confinement in the guardhouse. Even if there be no worse results, discipline is much injured, and in my opinion will never be better while such a state of affairs exists.

Fort Riley, Kans.—The canteen has been a success and would be more of one were the sale of beer and light wines permitted. The short time that such a condition existed it met with the hearty approval of all, made the men contented, affected the *morale* most satisfactorily, and reduced the list of absentees; and it was with regret such sales were discontinued under the operation of law.

Fort Randall, S. Dak.—The inability to sell beer deprives the canteen of that main source of profit upon which all canteens rely for continued prosperity. This deprivation may justly be said to be the cause of 90 per cent of the evils arising at this post. The average enlisted man, obtaining but little bodily satisfaction from the consumption of ginger ale, soda water, etc., and knowing from experience the almost paralytic effects resulting from hard cider, will have whisky or alcohol sent him from some one of the small towns within a radius of 30 miles of the post, or else he will smuggle it himself. Beer, which the majority prefer, can not be brought so easily to the post in quantities sufficient to satisfy the soldier's appetite. The whisky is usually of the vilest kind, and its effects for several days after pay day are pitiable enough to render lenient the most stringent prohibitionist. In all of the small towns in this part of South Dakota liquors are sold more or less openly, mostly in an open manner. Thus the absurdity is presented to the post of the sale of liquors in almost every part of South Dakota, except Fort Randall. Considering the disadvantage under which this canteen labors, the results have been as satisfactory as could have been expected. While I realize that the law restricts the sale of alcoholic liquors, wines, etc., to canteens in nonprohibition States, I have dwelt upon this point trying to show how lasting is the evil, how great is the discontent among the soldiers, and how a proper state of discipline becomes almost impossible, because I am fully convinced that my appeal, united as it must be with that of all commanders of posts in prohibition States, will finally convince those in a position to act that the success of prohibition in post canteen is doubtful.

Fort Yates, N. Dak.—It is notorious that whisky can be obtained in the little town of Winona, N. Dak., which is just across the river from the post. Four soldiers were drowned last winter and one frozen to death this winter going to or returning from that town. I would strongly recommend the repeal of the law which prohibits the sale of beer in post canteens in prohibition States. If it were sold in moderate quantities and under proper supervision few men would become intoxicated or would want to leave the post to obtain anything stronger. The military posts appear to be the only places where any attempt is made to enforce prohibition.

RETIREMENT OF GENERAL-SERVICE CLERKS, ETC.

The organic law of February 14, 1885, establishing a retired list for the rank and file of the Army provides that when an enlisted man has served as such thirty years he shall, on his application, be retired and

shall thereafter receive 75 per cent of the pay and allowances of the rank upon which he was retired.

July 29, 1886, Congress classified the general-service force for clerical duty at the headquarters of the Army and at those of the several military departments, and, for the purpose of retirement, gave the several classes assimilated rank as first sergeants, sergeants, corporals, and privates.

Upon this small class of enlisted men depend important interests of military administration. Under the officer of the Adjutant-General's Department they have charge of the records and files at department headquarters, and their duties, responsibilities, and qualifications are the same as discharged by and required of the clerks employed, with higher remuneration, in the several Executive Departments. Selected because of their special aptitude for the duties required of them, deprived of all chances of military advancement and forced, of necessity, to live at increased cost in the cities where department headquarters are located, it seem but justice to this small but highly deserving class that, on being retired after thirty years' faithful service, they should, like other enlisted men, be entitled to receive three-fourths of the pay actually received by them at date of retirement, and I earnestly recommend that this proposition be urged upon Congress for favorable consideration.

Respectfully submitted.

R. WILLIAMS,
Adjutant-General.

Maj. Gen. JOHN M. SCHOFIELD,
Commanding the Army.

MILITARY PRISON REPORTS.

COMMANDANT'S OFFICE, U. S. MILITARY PRISON,
Fort Leavenworth, Kans., July 18, 1892.

SIR: I have the honor to transmit herewith annual reports of the prison surgeon, chaplain, executive officer, quartermaster, commissary, and commanding officer of the provost guard, together with the various tabulated statements showing the number of prisoners received, discharged, etc., the offenses for which tried, age, nativity, occupation, etc.; also the amount of work performed by them.

Since my last report, the following changes in the officers on duty at the prison have taken place: Lieut. Col. J. P. Wright, surgeon, U. S. Army, Chaplain J. B. McCleery, U. S. Army, First Lieut. C. W. Mason, Fourth Infantry, and First Lieut. W. A. Nichols, Twenty-third Infantry, have been relieved, and replaced by the following officers: Capt. Charles Richard, asst. surg. U. S. Army, Chaplain Charles C. Pierce, U. S. Army, First Lieut. R. M. Blatchford, Eleventh Infantry, and First Lieut. George H. Sands, Sixth Cavalry, respectively.

Permanent improvements have been made in and around the prison as follows:

(1) Alterations made in privies in carpenter and shoe shops.

(2) Privies built for harness, broom, and tin shops, and for stone shed.

(3) Prisoners' bathroom enlarged and improved.

(4) New hard-wood floors laid in the night guard room, guard's amusement room, and wash room, two hospital wards, first class dormitory, dynamo room, and in one double room in the prison surgeon's quarters.

(5) New standing-seam tin roof on hospital.

(6) Glass sash doors placed in hospital, and new door placed in executive officer's quarters to connect with back hall.

(7) Hospital and other buildings kalsomined.

(8) All steam-heating pipes in prison yard placed in tunnels.

(9) Hospital sidewalks relaid with vitrified brick.

(10) Brick sidewalks laid in yards and in front of all officers' quarters.

(11) New foundations dug, walled up with stone, and paved with brick around the prisoners' dining room and dormitory, the old cellar converted into kitchen and dining room and floored with hard pressed brick, windows cut out and made double the former size, and the pillars of foundation of this building strengthened.

(12) Stairway made leading from first floor to dining room of above building.

(13) Office for commissary-sergeant made in new dining room.

(14) One hundred and eighty iron cells made and placed in first and third floors of above building.

(15) Drain pipe changed and sewerage remodeled from above building to join main sewer of prison.

(16) Wooden gates on farm replaced by five iron gates to open by rope and pulleys, and all farm gates and all gratings of iron around prison painted.

(17) All prison buildings kept in good repair, inside and out.

(18) A sawmill received from the Quartermaster's Department was set up in wheelwright shop and used in getting out lumber for the new assembly hall.

(19) Water pipe near post hop room dug up and relaid.

(20) Old hop room torn down and ground prepared for construction of the new assembly hall.

(21) During the last season a brickkiln was successfully worked, and two kilns were burned, producing 99,400 bricks. The new cellular system requiring much more room, has made necessary an increase of storage room, and it is designed to utilize the brick largely for building a store house, as well as for other prison use.

(22) An addition to the chancel in the prison chapel was added, with hard-wood floor and railing for choir, and the other side of chancel was made to correspond.

(23) Two frame buildings belonging to post, on west side of prison, torn down at request of the post quartermaster.

The following exhibit shows the receipts and expenditures during the fiscal year:

Items.	Appropriated.	Expended.	Balance.
Subsistence	$24,000	$17,867.63	$6,132.37
Tobacco	300	300.00	.....
Forage and hay for bedding	3,000	1,540.45	1,459.55
Stationery	1,000	1,000.00	.....
Clothing and donations	9,400	*8,945.99	454.01
Medical supplies	2,000	1,999.81	.19
Advertising	200	43.80	156.20
Apprehension of escaped prisoners	300	150.00	150.00
Pay of employés and extra-duty men	18,000	16,495.22	1,504.78
Fuel and general supplies	20,000	20,000.00	.....
Buildings	5,000	5,000.00	.....
Total	83,200	73,342.90	9,857.10

* In addition to the sum of $8,945.99 expended at the prison for clothing and donations to prisoners discharged, the sum of $360 was expended by the authorities at Alcatraz Island, California, in payment of donations to prisoners released from confinement at that place.

Of the sum $73,342.90 expended during the year, $655 was for donations to prisoners released from confinement at military posts, which amount being deducted, leaves as the expenditures of the prison proper $72,687.90, against $73,027.06 expended in fiscal year 1891; $79,753.35 in fiscal year 1890, and $79,818.92 in fiscal year 1889.

Including in expenditures for fiscal year 1892 the sum of $360 paid at Alcatraz Island, California, to prisoners released, the appropriation stands as follows:

Amount of appropriation	$83,200.00
Expenditures	73,702.90
Balance unexpended	9,497.10
Received from Treasury during the year	74,657.22
Expended	73,342.90
Turned into Treasury July 2, 1892	1,314.32

Number of donations sent to posts	131	
Donations paid by authorities at Alcatraz Island, California	72	
Donations to prisoners released at prison	285	
Total number of donations	488	at $5=2,440
Citizens' suits sent to posts during the year	200	

The appropriation for payment of accounts for prisoners' transportation during the fiscal year 1892 being included in the appropriation for the support of the Army, no payments on that account were made by the commandant.

At the close of the fiscal year 1891 the sum of $2,803.85 was retained for payments of accounts for prisoners' transportation not presented at that date. Of this amount $161.40 was expended for that purpose during the fiscal year 1892, and the balance, $2,642.45, was turned into the Treasury on September 30, 1891, which remains available for payment of accounts sent, under the law, to the Treasury for settlement.

From labor of prisoners and sales of material the following amounts were realized during the year:

Received by prisoners' labor	$1,162.96
Sale of rag carpets and mats	147.02
Sale of scrap iron, old cans, barrels, etc	89.93
Total	1,392.91
From similar sources, fiscal year 1891, receipts were	1,113.38
A net gain this year of	279.53

The above amount, $1,392.91, was covered into the Treasury June 30, 1892.

Receipts by sale of condemned prison property during fiscal year 1892 were $268.40, which amount was also covered into the Treasury.

Taken up on property returns during the year: 200 cords hard wood, 245 cords soft wood (cut on reservation); 71,500 pounds of hay, grown on farm; 99,400 bricks made by prisoners.

The receipts from the prison farm during the year were as follows:

Corn, 2,300 bushels; potatoes, 1,100 bushels; beans, 90 bushels; peas, 45 bushels; onions, 325 bushels; parsnips, 340 bushels; beets, 320 bushels; salsify, 65 bushels; turnips, 450 bushels; radishes, 48 bushels; lettuce, 35 bushels; sweet potatoes, 375 bushels, and about 6,000 heads of cabbage.

The yield is not as large as that of the preceding year, due to the unusal rains and high water of the Missouri River, which occurred shortly after the crop had been planted.

This loss, however, was to a great extent covered by the cutting of 71,500 pounds of hay on the farm, a large portion coming from the ground inundated during the early part of the season, which had been seeded down the previous year when small grain was raised thereon.

The levee placed around the main cultivated portion of the farm prevented the usual inroads of the Missouri River and consequent damage to the newly planted crops this year.

This year the following acreage has been planted: Sixty-five acres of corn, 35 acres of potatoes, 14 acres of beans, and some 20 acres of other vegetables, such as cabbage, onions, parsnips, carrots, beets, turnips, etc.

Clearing of the bottom lands progressed during the winter, resulting in a yield of 445 cords of wood, which have been accounted for on the returns.

The report of the prison quartermaster gives in detail the work performed for the quartemaster's department during the fiscal year, with cost of each article manufactured. It will be seen that there has been a reduction in the cost of boots and shoes, and all the reports that I have received indicate as general satisfaction to the wearers of prison-made shoes as is likely to obtain with any manufacture of similar articles.

The contemplated change to calfskin from cowhide will, in my opinion, give greater satisfaction to the soldier, and will be more in accordance with his other clothing.

I approve the recommendation that the present barrack chair be finished in oil and that the seats be made of hickory slats instead of the present vulcanized fiber, which is very difficult to get of the original good quality, is found to warp more than was anticipated, and is much more expensive than slats.

In case of injury to the slats the seats can be sent to the prison for repairs or be replaced without great expense, for which purpose it is suggested that instructions be given to inspectors to require repair of chairs in this manner.

I also invite attention to the recommendation to purchase broom corn in the fall instead of spring, and to adopt in place of the present stable broom a carpet broom with a row of rattan in the center.

It is a source of gratification to hear, as I have from many sources, that prison manufacture is giving more general satisfaction than ever before. In connection with these manufactures I invite attention to the fact that the amount of skilled labor required by the Quartermaster's Department has declined to such an extent that the number of prisoners who can now be taught trades is greatly reduced, as the following table will show:

Funds supplied the Quartermaster's Department for manufacture.

Year.	Amount.	Skilled labor furnished.
1885	$239,944.39	$29,542.50
1886	290,276.16	33,592.00
1887	242,143.59	32,480.75
1888	149,020.11	25,344.87
1889	118,833.39	16,975.13
1890	205,166.75	15,598.63
1891	97,923.78	12,988.37
1892	84,141,39	11,988.18

The latter includes expenditures for work on the assembly hall, which is nearly all to be done next year.

In the fiscal year 1885 there were employed in shops at skilled labor for the Quartermaster's Department a daily average of 186¼ men.

In the fiscal year 1892 there were employed at the same a daily average of 74 men.

The most important agency of reform in any prison, next to discipline, is that of learning a trade. The knowledge and skill required are the greatest stimulus to self-betterment, and the capacity gained to earn an honest living and the self-respect thereby attained all lead to the good of the individual, while the acquisition to the state of a skilled workman, instead of a worthless criminal, is greatly desirable.

Of course it is not possible to teach all men a trade within the limited terms of

sentences served here; but it is possible and desirable to increase the number now employed at skilled labor to at least double.

This can not be done in such trades as carpentry, but can be done in such trades as harness-making, tinware, boot or shoe making, and broom making.

While the Army appropriation bill only limits the amount to be expended at the prison from the appropriation for camp and garrison equipage (boots and shoes and barracks chairs) to $125,000, the amount assigned the prison from that appropriation last year was only $50,319.67.

In view of the very great importance to the individual prisoner and to the State of the teaching of trades, I recommend that the manufacture of boots and shoes, tinware, harness, and brooms be increased so far as they are needed for the Army, if not already supplied from the prison.

Attention is invited to the accompanying reports of the prison surgeon, chaplain, executive officer, commissary officer, and guard commander.

The health of the prison has been gratifying, except the unprecedented loss of three prisoners through cerebro-spinal meningitis, which, as stated by the prison surgeon, could not be traced to any cause within the prison. These reports indicate that the discipline of the guard and prisoners has been excellent, the police of the prison and grounds well kept up, and the food of the prisoners ample and of good quality, the clothing suitable and sufficient.

Attention is invited to the renewed recommendation of the executive officer that the jurisdiction of summary courts be extended to the trial of prisoners by courts-martial, the reasons for which were given in the annual report of last year; also to the suggestion of the guard commander that enlisted men transferring to the provost guard be not required to pay the cost of their transportation, this system of transfers being the ordinary manner of recruiting the guard.

The behavior of prisoners has never been better, due partly to the stricter discipline and better means of punishment secured in the new stone cells, but chiefly from the fact that the rule that prisoners shall serve out time lost for misconduct has been adhered to more strictly. The lengthening of sentence by loss of good time has been found a most effective punishment in nearly all cases, and will continue to be effective so long as the practice of making them serve such time invariably is continued.

The report of the prison chaplain indicates that the secular school, which was instituted November, 1887, under some doubt as to its successful operation under prisoner teachers, has passed from an experiment into a confirmed success, and it has reached the stage where a large increase in the numbers attending should be made.

This is in accordance with suggestions made by the honorable Assistant Secretary of War on his recent visit to the prison.

The present room admits of seating not more than one hundred. As soon as the changes made necessary by the new cellular system are completed it is believed that arrangements can be made to double the number of pupils.

On November 18, 1891, the honorable Secretary of War, in accordance with the report of the prison commissioners, approved the recommendation that the status of the prison should be changed from a dormitory to a cellular prison. Work was accordingly begun, and two floors of ninety cells each have been nearly completed. The third floor will be completed during the summer, if no unusual delay occurs in the receipt of the iron.

The cells are built in two rows, separated by boiler iron where they join at the back and sides, and of open iron grating in front and on top.

I consider this change one of the most important ever made in the prison management, as it does away with the innumerable evils of the common dormitory system, and will undoubtedly be for the benefit of the prisoners as well as add to the discipline of the prison.

Under the old system all the power of the commandant could only suppress, but not control, the bad element, which, combining under desperate leaders, held a terrorism over the more law-abiding elements. This influence, arising from congregation, was always for evil, never for good. It has greater force in prisons than the influence of organization for good in society; for its penalties are swifter and more certain. Thus if a well-meaning prisoner would incline to report a case of petty theft or other disreputable act, threats were at once conveyed to him from the "Clan-na-Gael," or "Number 2's gang," or "Number 28's gang," or the "Nigger-killers" (the real names of former gangs), and there is no doubt that desperate risks would be taken to make good such threats of revenge against informers.

It is exceedingly difficult to direct or control the power of combination among prisoners in any prison. I believe it is impossible under a dormitory system, with the varied classes of criminals to be found in this prison and under the law of the prison.

All evil combinations will be largely abated by the separate system, when a good

prisoner may avoid evil associations, if he so desires, and a large amount of control can be exercised by the authorities.

The cells do not prevent communication entirely, but are sufficient for the purposes of this prison, and the prison will be assimilated to the Auburn system, most approved by modern prison authorities.

When the cells are all completed, the floors will be ventilated by air shafts, under a system which is at present under advisement.

There were fourteen escapes and seven recaptures during the year, the large number of escapes being due to one successful attempt to cut out of a dormitory, where four prisoners got away, and one successful attempt to dig out of the yard through an incomplete tunnel. The latter party were followed up and three out of four were recaptured shortly afterwards.

There have been in four and a half years thirty-two escapes and twenty-six recaptures, a net loss of six during that period.

Attention is invited to the fact that the reward for the apprehension of deserters has been raised to $60, while the reward for recapture of escaped military prisoners remains at $30.

It would seem that the reward for escaped prisoners should be at least equal to that paid for apprehension of deserters. This would require appropriation by Congress, and the last annual estimate was accordingly made on this basis, was approved by the honorable Secretary of War, and the appropriation is now pending in Congress. (See Estimates of Appropriations, 1892–'93, page 251.)

The honorable Secretary of War has modified the prison regulations so as to increase the number of recommendations for special clemency on the 4th of July and Christmas from two to three on each day.

No prisoners have been sent to the insane asylum during the past year.

Under the usual orders of the War Department, the commandant represented the prison at the National Prison Congress at Pittsburg, Pa., from October 10 to 15, 1891, read a paper on "Crimes and Criminals of the American Army," and was reelected a member of the board of directors of the National Prison Association.

The officers of the prison are entitled to commendation for their faithful performance of duty, and though the prison has suffered a loss in the departure of the trained officers lately relieved, their successors are zealously endeavoring to acquire equal efficiency in their new duties.

Very respectfully, your obedient servant,

J. W. POPE,
Captain and A. Q. M., U. S. Army, Commandant.

The ADJUTANT-GENERAL, U. S. ARMY,
Washington, D. C.

OFFICE OF THE PRISON SURGEON, U. S. MILITARY PRISON,
Fort Leavenworth, Kans., July 11, 1892.

SIR: I have the honor to submit the following report of the operations of the medical department of this prison for the fiscal year ending June 30, 1892.

On February 15, 1892, I relieved Lieut. Col. J. P. Wright, surgeon, U. S. Army, of the duties of attending surgeon, and have been continuously performing those duties since that date.

A consolidated statement of the command and military prisoners admitted to the sick report, with mean strength, for the year is as follows:

	Mean strength.	Remaining sick June 30.	Admitted.			Returned to duty.	Discharged for disability.	Died.	Total disposed of.	Remaining sick.	Average daily per cent sick to mean strength.
			For disease.	For injury.	Total.						
Commissioned	8.30	.....	6	.....	6	6	.....	.....	6	.....	.10
Enlisted	102.83	.....	99	4	103	93	6	2	101	2	3.21
Military prisoners	390	3	287	61	348	334	2	5	341	7	1.51

It had not been the practice of my predecessor to calculate the prisoners marked "quarters" by the prison surgeon in the "average daily percentage of sick to mean strength" in the monthly consolidated report of sick prisoners under treatment.

It has been my practice to account for all men excused by the prison surgeon,

whether taken into the hospital or marked "quarters." A man excused for a slight or temporary ailment is as certainly noneffective as one suffering from an acute disease, and unless all cases are accounted for the report will not show the actual condition existing.

The disproportion of the average daily percentage of sick to mean strength, between the enlisted and the military prisoners, is ascribed to the greater average age of the guard (many of them having over twenty years' service) and their consequent greater liability to chronic diseases.

Among the prisoners diarrhea occurred more frequently than any other disease, 17 per cent of all cases admitted to the sick report being for this ailment. While this disease was more prevalent during the summer months, cases presented themselves during the entire year. Its prevalence is, in some cases, ascribed to chilling of the surface of the body during the cool part of the night in hot weather, and in others to overeating; especially was this latter cause found to be the case in those who had been on restricted diet.

Catarrhal diseases of the respiratory organs, including bronchitis and common colds, affected the next largest number of prisoners, 14 per cent of all cases admitted being of this class.

Malarial diseases were the next in frequency of occurrence, 10 per cent of the admissions being for these. Of the cases which have occurred since I have been on duty as attending surgeon, the greater proportion had had attacks of some form of the disease before coming to the prison, and in these the probability is that it was contracted prior to their arrival here.

Epidemic influenza of a mild type was prevalent during December and January. Six per cent of the admissions were due to this disease.

Rheumatism in its various forms was accountable for a little over 5 per cent of the total sickness.

Pneumonia occurred but twice during the year, which is a favorable showing. One of these proved fatal, a result brought about by the patient's own willful and perverse conduct after convalescence had been established.

Three cases of epidemic cerebro-spinal meningitis occurred among the prisoners, all of which ended in death. As already mentioned in a previous report, no conditions were discoverable at the prison which might predispose to an outbreak of the disease. The occurrence of each case was preceded by a period of unusual rainfall and excessive humidity, with marked barometric and thermometric changes. I am informed that the disease was prevalent in the surrounding country at the same time.

But two cases of tubercular diseases appeared during the year, both of which were discharged on surgeon's certificate of disability. I believe this is a very small ratio as compared with civil prisons.

The diseases above enumerated constituted 56 per cent of all the cases admitted; injuries constituted 17 per cent, while the remaining 27 per cent were for slight ailments of various kinds. But one prisoner was severely injured (by an accidental explosion of dynamite), resulting in the loss of a hand. This man was pardoned.

Among the guard, catarrhal affections of the respiratory organs were the most frequent causes of admissions to the sick report, 20 per cent of the total admissions being of this class. This is to be expected, since the larger proportion are on duty as sentries over outside working parties and as night guard.

Rheumatism and diseases of the nervous system, each class constituting 10 per cent of all cases admitted, occurred next in frequency. This is no doubt due to the nature of their duties and the relatively large number of old men among them.

Diarrhea was not as frequent among the guard as among the prisoners, less than 7 per cent of all cases admitted being for troubles of this nature.

Six members of the guard were discharged on surgeon's certificate of disability. One of these was for disability resulting from injury, and the others were from diseases incident to old age.

Two deaths occurred among the guard, one from a railroad accident and the other from cerebro-spinal meningitis.

Attempts at feigning sickness have been comparatively rare in my experience, which speaks well for the discipline of the prison.

The scrupulously clean condition in which all the buildings, shops, dormitories, stables, and latrines are maintained is worthy of praise. The drains and sewers are regularly flushed and kept in an excellent sanitary state.

The quarters of the officers, enlisted men, and civilian employés are likewise in good sanitary condition.

The air space in the prisoners' dormitories is ample for the numbers now occupying them, but they can only be ventilated by means of the windows and doors. While this has been found to be fairly effective, yet drafts must arise, and it is believed that a system of artificial ventilation could be devised which would overcome the danger and discomforts of these drafts.

The clothing issued to the prisoners is well adapted to the conditions under which they labor and to the seasons, and is comfortable.

The food is sufficient in quantity and has been well prepared, except the bread, which at times has not been up to the standard.

The subordinate service of the hospital has been performed by prisoners detailed for the purpose, under the supervision of Hospital Steward Cabell and Acting Hospital Steward Younghanns, Hospital Corps, U. S. Army. These two noncommissioned officers have been faithful, diligent, and painstaking in the performance of their duties. I have not found the prison nurses as careful or as intelligent in the performance of their duties as Hospital Corps men. This is hardly to be expected, as they are utterly ignorant of the simplest principles of the delicate duties of sick-nursing when first detailed. In selecting prisoners for nurses I have endeavored to choose the best men I could find, and as these are usually such as have but comparatively short sentences to serve, they hardly become familiar with the routine duties before they are discharged. It takes time and training to make a good nurse. In those cases where careful nursing was a necessary factor in the treatment, the work devolved upon the acting hospital steward.

It is my opinion, after an experience with prison nurses extending over a period of more than four months, that better service to the sick would result with Hospital Corps men.

Very respectfully, your obedient servant,

CHARLES RICHARD,
Captain and Assistant Surgeon, U. S. Army, Prison Surgeon.

The PRISON ADJUTANT, U. S. MILITARY PRISON.

CHAPLAIN'S OFFICE, U. S. MILITARY PRISON,
Fort Leavenworth, Kans., July 18, 1892.

SIR: I have the honor to present my first annual report as prison chaplain, having relieved Chaplain J. B. McCleery on the 10th of August, 1891.

During the first eight months of my service I was required also to serve the adjacent post of Fort Leavenworth, thus dividing my labor to the detriment of the work in both places. Happily that condition of affairs no longer exists, and I am permitted to obey the regulations and devote my whole time to the moral improvement of the prisoners.

In addition to the strictly religious part of my work, I have rendered services as librarian, superintendent of the secular school, and inspector of all mail matter passing between prisoners and their friends.

In connection with the statistical tables presented herewith I beg to make the following report and suggestions concerning the fourfold aspect of my work:

(*1*) *As chaplain.*—I have conducted three services each Sunday, with gratifying results. The attendance, while entirely voluntary, has reached fully 90 or 95 per cent of the prison population. I have not been so much concerned about permanent results, but have sought by various methods to give the men the most practical help in the most acceptable way, so long as they are with us.

The chapel has been considerably beautified, but much might yet be done along this line and in providing accommodation for a congregation that can not always secure seats.

On nearly all legal holidays I have preferred some instructive entertainment.

In October I was ordered, with the commandant, to attend the prison congress at Pittsburg, and was chosen vice-president of the International Association of Prison Chaplains. It was of vast value to me to study reformatory problems with those who have been life-long specialists, and I trust that, in the interest of my peculiar work, I may have a similar privilege in the future.

(*2*) *As librarian.*—A new catalogue has been prepared. Besides the care of the library it has fallen to the lot of the chaplain to beg from generous editors and publishers a large supply of reading material, and the newspaper and magazine files have in this way alone been supplied.

(*3*) *As superintendent.*—The school course is necessarily quite elementery, but has been very profitably pursued. Only 100 pupils can, at present, be accomodated; but two or three times that number can be found who are unable to pass the required examination. In the interest of education and of discipline I suggest the enlargement of the school, so that it may include all prisoners who are deficient.

I further recommend the extension of each school term from three to four months, my experience having shown the former period to be too short for the mastery of the studies of each grade. The school has no vacation during the year.

(*4*) *As inspector.*—This work has involved the reading of 6,603 outgoing letters

and as large a number of letters received by prisoners, and has been anything but a delightful task, although it has been a means of education for my personal work among the men. It has taught me much of their peculiar traits and weaknesses, home environments, etc., and has made my ministry more practical than it might have been. The percentage of incoming mail matter unfit for delivery to prisoners, by reason of obscenity and profanity or demoralizing information, has, to me, been appalling. There are few guard-houses in the Army which do not keep me fully informed as to their inmates and their offenses, as well as the more "shady" kind of gossip about the various posts.

On the other hand, much of the correspondence has revealed to me, among the prisoners, fallen sons of honorable families, whose restoration is the absorbing desire of their people.

I wish to confess myself a convert to the cell system now being introduced, as being a vast improvement in the line of moral influence over the former dormitory system, where men of all grades of morals (though politic enough to be graded well for prison behavior) could be grouped together with young boys suffering the penalty for their first offense, to give them a course in foulness and heart-hardening.

That part of my table showing the cause of desertion may need to be taken *cum grano salis* in some cases, but in the main must be reliable, for, upon his entry to the prison, each man is encouraged to tell me, privately, candidly, and fearlessly, his motive.

One chronic deserter, who has been in the service and out again seven times, would have us believe that he is a "skiptomaniac," if I may coin a not overchaste word. His claim is that he has a mania for enlisting and deserting, that he can not check this resistless impulse, and that if he were discharged from the prison he would be impelled to enlist at the first sight of a flag and then doubtless desert again. Whether the theory is correct or not it may be interesting to the student of military penology.

In conclusion, I wish to acknowledge the marked courtesy and helpfulness accorded me by the commandant, and, indeed, by all the officers of the prison.

Very respectfully, your obedient servant,

CHARLES C. PIERCE,
Chaplain, U. S. A., Prison Chaplain.

The PRISON ADJUTANT.

ACTING ASSISTANT QUARTERMASTER'S OFFICE, U. S. MILITARY PRISON,
Fort Leavenworth, Kans., July 9, 1892.

SIR: I have the honor to submit the following report of the work of this office during the fiscal year ending June 30, 1892:

SHOE SHOP.

There were employed in this shop one inspector at $116.66 per month and two instructors at $100 per month each, and prisoners varying in number from 21 to 32, amounting to 8,718½ days' labor at 50 cents per day. Total value of labor, $6,759.25.

There were manufactured during the year:

	Average cost.
1,501 pairs boots, cavalry, sewed	$3.20
13 pairs boots, brass-screwed, old style	2.60
20,450 pairs shoes, campaign, sewed	1.84
100 pairs shoes, calf, sewed	2.19
15 pairs shoes, brass-screwed, old style	1.84

It will be observed that the average cost of the boots and shoes has been materially lowered as compared with previous years. This has been accomplished by a closer cutting of the upper leather, a reduction in the number of civilian employés, and a slight addition to the task of the prisoners at work in the shop.

The only change in the pattern of the shoe was that authorized by the Quartermaster-General August 29th, 1891, viz: The tongue and vamp of the shoe to be made of one piece.

Under date of March 31, 1892, the Quartermaster-General directed the manufacture of one hundred pairs calfskin shoes of an improved style of last. These were manufactured and sent to Fort Leavenworth, Kans., Fort McHenry, Md., and Washington Barracks, D. C.

No reports from those to whom the shoes were issued have yet been received.

I would renew my recommendation of last year that steel nails take the place of the soft iron nails in the heels of boot and shoe.

CARPENTER SHOP.

In this shop from 3 to 13 prisoners have been employed in the manufacture of stores for the Quartermaster's Department. Total number of days, 2,288½; at 50 cents per day, $1,144.25.

The following articles were manufactured at the average cost set opposite each article:

3,257 barrack chairs, vulcanized seats	$1.01
218 mess tables	5.26
4,059 mess stools	.31
23 mess benches	1.82
22 company field desks	7.05
1 regimental field desk	11.85

Upon the recommendation of this office the Quartermaster-General authorized, October 27, 1891, the putting together of the barrack chairs here and shipping them to posts already set up. This provision will certainly increase the durability of the chair, for unless it has been properly set up in the first instance it must soon fall to pieces in use.

I think that the seat of the barrack chair would be more durable and comfortable if made of slats of hickory wood, and the whole chair much improved in appearance if finished in oil before leaving the shop.

Two company field desks, made on an enlarged pattern and with more partitions to contain the books, were made and issued to the depot quartermaster, Fort Leavenworth, Kans., for trial.

Few stable brooms have been called for this year, which may be the result of posts having a surplus on hand and their infrequent use for the purpose for which made. I would recommend a broom like the ordinary carpet broom, only made of coarser material, much heavier, and reinforced with a row of rattan through its center, for sweeping the dirt floors of stables.

HARNESS SHOP.

There have been employed in the harness shop one foreman, at $100 per month, and from 6 to 17 prisoners, or 3,517¾ days' labor, at 50 cents per day. Total value, $2,958.88.

There were manufactured during the year, at the average cost set opposite each—

243 S. S. harness, ambulance, wheel	$ 6.50
237 S. S. harness, ambulance, lead	14.50
250 S. S. harness, wagon, wheel	15.15
436 S. S. harness, wagon, lead	10.20
10 S. S. harness, light ambulance, wheel	12.55
8 S. S. harness, express, wheel	22.70
31 sets harness, cart	14.50
1 set harness, buckboard	20.08
14 pairs lines, 2-horse	1.50
16 pairs lines, 4-horse	2.25
6 pairs lines, 6-horse	2.75
2 sets lines, cart	1.00
24 lines, jerk and lead	1.45
60 bridles, driving	1.65
4 bridles, riding	.88
859 straps, halter	.31
216 straps, hame	.10
130 straps, breast	.54
8 straps, pole	1.95
6 straps, stirrup	.15
3 straps, neck yoke	.97
66 halters	.87
28 traces, ambulance	1.4
9 coronas	5.17
2 breechings, ambulance	1.50
4 saddles, cart	4.35
2 backbands	.70
2 hipstraps	.54

No changes in the specifications of any article manufactured in this shop have been made.

TIN SHOP.

There were employed in the tin shop, one foreman, at $100 per month, and 3 to 9 prisoners, or 2,068½ days' labor, at 50 cents per day. Total value, $2,234.25.

The following articles were manufactured, at the average cost set opposite each:

802 tin wash boilers A. R	$1.31
126 tin coffee boilers A. R	.66
468 tin teakettles A. R	.65
72 tin steamers	.30
96 tin pot covers A. R	.06
257 sheet-iron bakepans A. R., large	.43
56 sheet-iron bakepans, small	.29
809 tin boilers, square	1.87
75 tin boilers, square, with faucets	2.24
118 tin boilers, round	1.40
277 tin boilers, round, with faucets	2.10
27 tin steamers, square	.62
299 tin coffee pots	.54
45 tin dishpans	1.09
18 tin pans	.19
20 tin teapots	.42
1 tin collender	.45
75 tin dippers	.20
1 tin steaming box	49.84
721 sheet-iron bakepans, assorted	.36
12,741 joints sheet-iron stovepipe, common	.13
2,766 joints sheet-iron elbows, common	.14
46 joints sheet-iron T joints, common	.26
790 stovepipe collars	.04
223 flue stoppers	.08
20 flue thimbles	.05
2 camp stoves with furniture	12.38

The work in this shop has conformed in all respects to the specifications of the articles manufactured.

BROOM SHOP.

There were employed in the broom shop from 2 to 6 prisoners, or 1,404½ days, at 50 cents per day. Total value, $702.25.

The following articles were manufactured, at the average cost set opposite each:

22,375 corn brooms	$0.15
4,000 whisk brooms	.09½
23 rope mats	.88

The cost of the broom could probably be reduced if the broom corn was purchased in the months of October or November, instead of the spring of the year, when the supply in the hands of dealers is much reduced and the broom corn correspondingly high-priced.

BLACKSMITH SHOP.

There were employed in the blacksmith shop from 1 to 3 prisoners, or 648½ days, at 50 cents per day. Total value, $324.25.

Manufactured during the year: 3,257 sets of bolts for barrack chairs; 3,257 sets braces for barrack chairs; 22 sets irons for company field desks; 218 sets legs and braces for mess tables; 4,059 iron rods for mess stools; 23 sets legs and braces for mess benches.

TAILOR SHOP.

There were employed in the tailor shop from 1 to 5 prisoners, or 674 11/30 days, at 50 cents per day. Total value, $337.18.

The following articles of clothing were manufactured for issue to prisoners in confinement at Alcatraz Island:

155 coats	$2.19
350 pairs trousers	1.76
350 shirts	1.23
350 pairs drawers	.43
130 pairs overalls	.48

The following labor was performed by prisoners for the post quartermaster, Fort Leavenworth, Kans., including labor on Assembly Hall:

3,353¾ days' skilled labor at, 50 cents per day	$1,676.87
23,796 days' unskilled labor, at 35 cents per day	8,328.60
Total	10,005.47

TOTAL LABOR.

The total amount of skilled labor employed by the Quartermaster's Department was 22,674½ days, at 50 cents per day, $11,337.18.

The total amount of unskilled labor, consisting of that done by prisoners turned over to the post quartermaster, Fort Leavenworth, Kans., as laborers, was 23,795 days, at 35 cents per day, $8,328.60.

Total value of skilled labor	$11,337.18
Total value of unskilled labor	8,328.60
Total	19,665.78

RECEIPTS.

Sale of scrap leather and sacks for packing	$425.25
Sales to officers of fuel, forage, and mineral oil	809.10
Sales to officers of boots and shoes	6.72
Sales to officers of miscellaneous clothing and equipage	531.04
Sales to officers of miscellaneous quartermaster stores	980.89
Sales of condemned property, clothing and equipage	7.15
Sales of condemned property, quartermaster stores	9.50
Receipts for miscellaneous prison labor	51.88
Total	2,821.53

EXPENDITURES.

The disbursements of the Quartermaster's Department made during the fiscal year were as follows:

Paid out of appropriation for fiscal year 1891-'92:	
Regular supplies (tinware, etc.)	$2,404.70
Incidental expenses (clerical services, etc.)	1,980.85
Army transportation (harness, field desks, plumbing assembly hall, etc.)	11,216.00
Clothing and equipage (boots, shoes, chairs, etc.)	50,319.07
Barracks and quarters (assembly hall, etc.)	2,846.08
Total	68,766.70
Paid out of appropriation for fiscal year 1890-'91:	
Clothing and equipage	$569.15
Regular supplies	6,601.59
Army transportation	8,203.95
Total	15,374.69
Total disbursements	84,141.39

There have been transported from this prison to general depots of the Quartermaster's Department and to various posts 482,199 pounds of freight, for which 569 bills of lading were issued.

There have been 428 transportation requests issued, covering transportation of 276 prisoners returning to last place of enlistment, and 303 escorts returning to their proper stations.

Very respectfully, your obedient servant,

F. VON SCHRADER,
First Lieutenant, Twelfth Infantry, A. A. Q. M.

The ADJUTANT U. S. MILITARY PRISON.

OFFICE OF THE EXECUTIVE OFFICER, U. S. MILITARY PRISON,
Fort Leavenworth, Kans., July 7, 1892.

SIR: I have the honor to submit the following report for the year ending June 30, 1892:

During this time I have made the daily inspections required by the prison regulations, and have found the police and general condition of the prison buildings and grounds to be excellent. The discipline of the prisoners has been good, the few serious infractions having been confined, as usual, to the bad characters, of whom there have been a larger number than usual, due probably to the reduction of sentences and discharges under the extension of the benefits of General Order No. 21 of 1891 to prisoners whose conduct was good.

The members of the provost guard are well instructed in their duties and are well disciplined. Their arms are in good condition and their clothing and general appearance is excellent, as is also their behavior both on and off duty.

The numbers of trials of members of the guard by summary court during the year was 57. For the preceding nine months of the previous year during which time the court was established the number of trials was 59.

The civilian foremen and employés have been prompt and attentive to their duties.

I would respectfully renew my recommendation of last year that steps be taken to have the jurisdiction of the summary court extended to prisoners.

Very respectfully, your obedient servant,

B. H. GILMAN,
Captain, Thirteenth Infantry, Executive Officer.

The ADJUTANT U. S. MILITARY PRISON.

OFFICE OF ACTING COMMISSARY OF SUBSISTENCE,
U. S. MILITARY PRISON, FORT LEAVENWORTH, KANS., *July 7, 1892.*

SIR: I have the honor to submit the following report of this office, fiscal year ending June 30, 1892:

I relieved First Lieut. C. W. Mason, Fourth Infantry, as acting commissary of subsistence of this prison on May 1, 1892, per orders No. 35, U. S. Military Prison, April 26, 1892.

In looking over his papers I find that the subsistence supplies for prison use (with the exception of fresh beef) have been purchased from the Subsistence Department of the Army under authority conferred by the honorable Secretary of War in a letter from the Commissary-General of Subsistence, dated September 13, 1876. These I believe to be of the best quality, as no complaints have been made to me by any of the prisoners.

Volz Brothers, of Leavenworth, Kans., had the contract for the supply of fresh beef.

The number of rations issued during the year were as follows: To prisoners, 142,996; to civilian employés, 2,555; total number of rations, 145,551. Daily average number of prisoners, $390\frac{446}{365}$; daily average number of civilians, 7; average cost per ration, 10.4467 cents; total cost of ration, $14,966.99.

The ration in bulk is as follows: Pork, 9,157 pounds; rice, 900 pounds; peas, 1,500 pounds; soap, 3,213 pounds; beef, 113,994 pounds; salt, 17,055 pounds; pepper, 486 pounds; vinegar, 642 gallons; flour, 208,190 pounds; beans, 14,940 pounds; coffee, 6,560 pounds; tea, 708 pounds; sugar, 15,808 pounds; candles, $38\frac{1}{4}$ pounds.

In addition to the above, articles such as mutton, dried peas, hominy, barley, potatoes, etc., were purchased from the prison mess fund, of which I am the treasurer. A large variety of vegetables raised on the prison farm were also served in their season. Hogs raised on the prison farm have been killed at different times and served as fresh pork.

I consider the prisoners well fed; the variety of food ample; is well cooked and served, each man having an abundance.

Twenty-five minutes are allowed for breakfast and dinner. At supper and dinner, on Sundays, they are dismissed when they have finished eating.

The commissary officer is present at each meal, as also the commissary-sergeant and five privates of the provost guard.

The mess hall and kitchen are inspected by myself and commissary-sergeant every day. I have invariably found it in a very cleanly condition.

Commissary-Sergeant George Wentzel has been on duty with me since I took charge of the office. I consider him a thoroughly reliable and painstaking noncommissioned officer.

A quarter of a pound of chewing tobacco per month is furnished prisoners engaged on special or excessive hard labor. The number of pounds issued during the year was $846\frac{1}{4}$; value, $300. In conclusion is a statement of the prison mess fund.

Received from Lieut. C. W. Mason, Fourth Infantry, $1,816.62; since May 1, 1892, $1,085.33; total to be accounted for, $2,901.95. Expended during May and June, $666.65; balance on hand June 30, $2,235.30; total accounted for, $2,901.95.

Respectfully submitted.

R. M. BLATCHFORD,
First Lieutenant, Eleventh Infantry, Prison A. C. S.

The ADJUTANT, U. S. MILITARY PRISON.

OFFICE OF COMMANDING OFFICER PROVOST GUARD,
U. S. Military Prison, Fort Leavenworth, Kans., July 15, 1892.

SIR: I have the honor to submit the following report on the provost guard for the past year:

The method of recruiting the guard which appears to give the best satisfaction is by voluntary transfer of soldiers from the line who have served at least one enlistment and have been discharged with character "excellent." At one time during the past year a number of vacancies existed in the guard, and it became necessary to obtain fifteen recruits from recruiting depots. These men were old soldiers who had served at least one enlistment and had been discharged with character "excellent."

The recruits thus obtained have proven very good men, but a few came here with a discontented feeling because they were not allowed to select their regiment.

One great obstacle in recruiting the guard by voluntary transfer is the fact that soldiers are obliged to pay cost of transportation, which is quite a harship for some who come from distant stations.

It is the aim to have the members of the guard first-class in every respect. The positions occupied by them are responsible ones, and I believe that if the Government would bear the expense of transporting soldiers to the guard who are transferred from the line, one great obstacle would be removed and a great many more applications would be received from excellent soldiers of the line, and a larger field would be offered to select from.

The members of the guard, with a few exceptions, have been attentive to their duties and conducted themselves in a highly satisfactory manner during the past year.

Out of seventeen men who were available for discharge under provisions of General Order No. 80 of 1890, but two have taken advantage of it.

During the past two months a few have taken three months' furlough and accepted positions on the Columbian Guards at the World's Fair, Chicago, Ill., with a view of taking their discharge at the expiration of the three months' furloughs.

The quarters of the guard are excellent, ample, and well ventilated, the amusement room is nicely fitted up with billiard and pool tables and a good stock or tobacco and cigars, and plenty of good reading matter, and it is a great source of pleasure and amusement to the members of the guard.

The profits from the amusement room amount to from $60 to $75 per month, and this, together with the savings on the rations of about $90 per month, and the quantities of vegetables obtained from the prison garden, enable the guard to live as well as any organization in the U. S. Army.

The amount of company fund at this date is $489.27.

The guard is armed with revolvers and three kinds of shotguns.

In compliance with instructions from headquarters of the Army, Adjutant-General's Office, requisitions were made several months ago for Spencer repeating shotguns to replace the English and Parker guns now in use, thus giving a uniformity of arms, and it is hoped that this long-needed change will be effected at an early date.

Very respectfully, your obedient servant,

FREDERICK PERKINS,
First Lieutenant, Eighth Infantry, Commanding Guard.

The ADJUTANT, U. S. MILITARY PRISON.

U. S. MILITARY PRISON,
Fort Leavenworth, Kans., July 18, 1892.

The following statement showing the number of prisoners in confinement in the United States military prison, Fort Leavenworth, Kans., on the 30th day of June, 1892, received from different organizations of the Army, the departments from which sentenced, terms of sentences, together with their ages, nativities, and occupations, is respectfully submitted.

J. W. POPE,
Captain and A. Q. M., U. S. Army, Commandant.

Number of prisoners in confinement on the 30th day of June, 1892, 395.

Of the number of prisoners confined there were sentenced from the different regiments as follows:

Cavalry: First, 12; Second, 1; Third, 23; Fourth, 2; Fifth, 16; Sixth, 15; Seventh, 9; Eighth, 10; Ninth, 7; making a total from the cavalry arm of 95.

Artillery: First, 16; Second, 8; Third, 11; Fourth, 18; Fifth, 5; making a total from the artillery arm of 58.

Infantry: First, 3; Second, 9; Third, 3; Fourth, 1; Fifth, 12; Sixth, 9; Seventh, 15; Eighth, 9; Ninth, 3; Tenth, 10; Eleventh, 9; Twelfth, 14; Thirteenth, 8; Fourteenth, 2, Fifteenth, 9; Sixteenth, 7; Seventeenth, 9; Eighteenth, 8; Nineteenth, 6; Twentieth, 5; Twenty-first, 5; Twenty-second, 8; Twenty-third, 8; Twenty-fifth, 9; making a total from the infantry arm of 181.

Battallion of Engineers, 3; Hospital C· rps, U. S. Army, 1; provost guard, General Service U. S. Army, 1; Ordnance Department, 1; recruits, mounted service, 24; recruits, general service, 31; the whole making a grand total of 395.

Of the number of prisoners confined there were sent from the different departments as follows: War, 54; Atlantic, 48; Missouri, 75; Platte, 53; Dakota, 50; Texas, 43; East, 71; Columbia, 1; the whole making a total of 395.

The following represents the various charges upon which the prisoners were tried and sentenced; Desertion, 269; desertion and desertion and sixty-second Article of War, 3; desertion and desertion, 6; desertion and desertion and desertion, 1; desertion and desertion and desertion and desertion and sixty-second Article of War, 1; desertion and desertion and seventeenth Article of War, 1; desertion and seventeenth Article of War, 21; desertion and seventeenth and thirty-eighth Articles of War, 1; desertion and seventeenth and fortieth Article of War, 1; desertion and seventeenth and sixtieth Article of War, 1; desertion and seventeenth and sixty-second Article of War, 6; desertion and thirty-second Article of War, 1; desertion and thirty-third Article of War, 1; desertion and thirty-ninth Article of War, 1; desertion and thirty-ninth and sixtieth Article of War, 1; desertion and fortieth and sixtieth Article of War, 1; desertion and fiftieth Article of War, 3; desertion and fifty-first Article of War, 1; desertion and sixtieth. Article of War, 4; desertion and sixtieth and sixty-second Article of War, 1; desertion and sixty-second Article of War, 17; desertion and sixty-second and sixty-second and sixty-second and seventeenth Articles of War, 1; desertion and sixty-second and sixty-second Articles of War, 1; desertion and theft, 1; violation thirty-second and twenty-first Articles of War, 1; violation thirty-second, thirty-third, and sixty-second Articles of War, 1; violation thirty-second and sixty-second Articles of War, 2; violation thirty-second and sixty-second and seventeenth Articles of War, 1; violation thirty-second, sixty-second, and sixty-second Articles of War, 1; violation thirty-second and sixtieth Articles of War, 1; violation thirty-third and sixty-second Article of War, 1; violation thirty-third, sixty-second, and sixty-second Articles of War, 1; violation thirty-eighth and sixty-second Article of War, 1; violation fortieth, sixtieth and sixty-second Articles of War, 1; violation sixtieth Article of War, 3; violation sixtieth and sixty-second Articles of War, 1; violation sixty-second Article of War, 19; violation sixty-second and seventeenth Articles of War, 2; violation sixty-second, twenty-first, twenty-first and twenty-first Articles of War, 1; violation sixty-second and sixty-second Articles of War, 5; violation sixty-second, fifty-first, sixty-second and sixty-second Articles of War, 1; violation sixty-second, sixty-second, and sixty-second Articles of War, 1; violation sixty-second, thirty-second, and twenty-fourth Articles of War, 1; theft, 3; theft, thirty-second, twenty-first, and twenty-first Articles of War, 1; violation section 1360 Revised Statutes of the United States 1; the whole making the grand total of 395.

The following are the terms of sentences and number of prisoners undergoing confinement under each term: Seven months, 2; 9 months, 1; 1 year, 76; 1 year and 4 months, 1; 1 year and 6 months, 75; 1 year and 8 months, 2; 1 year and 9 months, 1; 1 year and 11 months, 1; 2 years, 65; 2 years and 4 months, 1; 2 years and 5 months, 1; 2 years and 6 months, 107; 2 years and 8 months, 1; 2 years and 9 months, 1; 2 years and 10 months, 1; 2 years and 11 months, 2; 3 years, 24; 3 years and 2 months, 1; 3 years and 6 months, 12; 4 years, 9; 4 years and 6 months, 2; 4 years and 9 months, 1; 5 years, 5; 6 years and 6 months, 1; 7 years, 1; 10 years 1; the whole making the grand total of 395.

The approximate ages of the prisoners confined in the prison are shown by the following: Between 19 and 20 years, 7; between 20 and 25 years, 185; between 25 and 30 years, 149; between 30 and 35 years, 45; between 35 and 40 years, 6; between 40 and 45 years, 3; total, 395.

Of the prisoners confined here, the nativity, as claimed by them, is as follows: United States, 305; Canada, 7; East Indies, 1; England, 10; France, 1; Germany, 22; Ireland, 32; Norway, 2; Nova Scotia, 1; Prussia, 2; Scotland, 4; Sweden, 7; Switzerland, 1; total, 395.

The following occupations are represented: Acrobat, 1; barbers, 15; bakers, 2;

basketmaker, 1; beltmaker, 1; boltcutter, 1; bonecarver, 1; bricklayer, 3; brush-molder, 1; blacksmith, 11; boilermaker, 1; bookkeeper, 1; brewer, 1; broom-makers, 2; butchers, 4; cabinetmaker, 1; carpenters, 19; carpet-weaver, 1; clerks, 25; cigar-maker, 1; coopers, 3; cooks, 8; cotton-weaver, 1; drug clerk, 1; electricians, 2; engravers, 2; engineers, 3; farmers, 18; firemen, 18; furniture finisher, 1; gardeners, 3; gold-beaters, 1; hostlers, 6; harnessmakers, 2; hat-finishers, 2; horseshoer, 1; iron-moulders, 2; japanner, 1; jeweler, 1; laborers, 74; lather, 1; machinists, 7; miners, 2; molders, 2; musicians, 4; nickel-platers, 10; painters, 25; printers, 10; paper-hangers, 2; plumbers, 2; porter, 1; railroad men, 5; rubberworker, 1; sailors, 16; salesmen, 2; school-teachers, 2; showman, 1; shoemakers, 16; slate-roofer, 1; stone-cutters, 3; stone-masons, 2; steel-workers, 2; steam and gas-fitters, 1; tailors, 9; tinsmiths, 3; teamsters, 20; telegraph operators, 2; upholsterer, 1; weavers, 2; watchmaker, 1; wheelwright, 1; wood-turner, 1; wool-spinner, 1; wire-drawers, 2; total 395.

Annual report of alterations in prisoners and prison labor performed at the U. S. Military Prison, Fort Leavenworth, Kans., during the fiscal year ending June 30, 1892.

Date.	In prison.		Gain.			Loss.						Sentences mitigated.
						Discharged.						
	Aggregate.	Aggregate last report.	By transfer.	From escape.	Aggregate.	Expiration sentence.	By order.	On surgeon's certificate.	Died.	Escaped.	Aggregate.	
July 31, 1891	381	474	28	3	31	18	4	.....	1	5	28	13
August 31, 1891	377	450	22	1	23	23	3	.....	.....	1	27	1
September 30, 1891	374	441	22	.....	22	15	5	1	.....	4	25	14
October 31, 1891	381	421	30	1	31	22	.....	.....	.....	.....	22	8
November 30, 1891	377	419	23	.....	23	20	1	.....	.....	2	23	1
December 31, 1891	389	400	31	.....	31	21	3	.....	.....	.....	24	7
January 31, 1892	393	410	30	1	31	23	2	.....	.....	2	27	2
February 29, 1892	409	417	34	.....	34	16	2	.....	.....	.....	18	6
March 31, 1892	411	390	35	.....	35	29	1	.....	2	.....	32	12
April 30, 1892	398	385	15	.....	15	24	5	1	.....	.....	30	5
May 31, 1892	412	379	33	1	34	19	.....	.....	1	.....	20	6
June 30, 1892	395	378	15	.....	15	29	2	.....	1	.....	32	7
Total	4,697	4,964	318	7	325	259	28	2	5	14	308	82

RECAPITULATION.

In prison June 30, 1891	378
Received since	325
Total	703

LOSS.

Discharged:	
Expiration of sentence	259
By order	28
On surgeon's certificate	2
Escaped	14
Died	5
Total	308
Remaining in prison June 30, 1892	395

Prison labor performed.

During—	Labor performed for quartermaster's department.								
	For depot and post quartermaster.		Manufacturing department.						
	Number of days skilled.	Number of days unskilled.	Number of days shoe shop.	Number of days harness shop.	Number of days tin shop.	Number of days broom shop.	Number of days carpenter shop.	Number of days tailor shop.	Number of days blacksmith shop.
July, 1891	206	1,622.5	750	184	217	111	118	60	73
August, 1891	222	1,433	758.5	198	199	96.5	116	168.7	70
September, 1891	246.5	1,616	741.5	194	241	91.5	210	99.67	84
October, 1891	269.25	1,783	757.5	174.75	213	89.5	308	73	68
November, 1891	108	1,555.5	734	161	127	84	304	42	103.5
December, 1891	38	1,839.5	687.5	208	170	81	333	10	20
January, 1892	142	2,048	756	304	166	137	211.5	54	68
February, 1892	76	1,527	723	401	172	127	251.5	.....	17
March, 1892	189.5	2,105.5	827.5	453	148.5	156	186	.....	23
April, 1892	534	2,547	767	381	67.5	148	96.5	62	20
May, 1892	680.5	2,720	669	407	125.5	149	60	30	40
June, 1892	642	2,999	547	452	222	134	94	75	62
Total	3,353.75	23,796	8,718.5	3,517.75	2,068.5	1,404.5	2,288.5	674.37	648.5

During—	Total labor performed for quartermaster department.		Labor performed for prison.		Total days' labor.		
	Number of days skilled.	Number of days unskilled.	Number of days skilled.	Number of days unskilled.	Number of days skilled.	Number of days unskilled.	Aggregate number of days' labor.
July, 1891	1,719	1,652.5	1,670	5,022	3,389	6,644.5	10,033.5
August, 1891	1,828.7	1,433	1,762.8	5,134	3,591.5	6,567	10,158.5
September, 1891	1,908.17	1,616	1,697.83	4,783.5	3,606	6,399.5	10,005.5
October, 1891	1,953	1,783	1,967	4,775.5	3,920	6,558.5	10,478.5
November, 1891	1,663.5	1,555.5	1,859.5	4,464	3,523	6,019.5	9,542.5
December, 1891	1,547.5	1,839.5	2,176	4,632	3,723.5	6,471.5	10,195
January, 1892	1,838.5	2,048	1,886	4,363.5	3,724.5	6,411.5	10,136
February, 1892	1,767.5	1,527	1,907.5	4,617.5	3,675	6,144.5	9,819.5
March, 1892	1,983.5	2,105.5	2,113	4,889	4,096.5	6,994.5	11,091
April, 1892	2,076	2,547	1,794	4,110	3,870	6,657	10,521
May, 1892	2,161	2,720	1,615	2,996	3,776	6,716	10,492
June, 1892	2,228	2,999	1,502	4,097	3,730	7,096	10,826
Total	22,674.37	23,796	21,950.63	54,884	44,625	78,680	123,305

Average number of prisoners employed daily throughout the year of 308 working days:

Mechanics	144.88
Laborers	255.45
Total	400.33

Average number of prisoners in confinement per month, 390.

ROSTER OF THE UNITED STATES MILITARY PRISON.

OFFICERS.

(1) Capt. J. W. Pope, A. Q. M., U. S. Army, commandant; (2) Capt. C. Richard, assistant surgeon U. S. Army, prison surgeon; (3) Chaplain C. C. Pierce, U. S. Army, prison chaplain; (4) Capt. B. H. Gilman, Thirteenth Infantry, executive officer; (5) First Lieut. F. Von Schrader, Twelfth Infantry, prison quartermaster; (6) First Lieut. George H. Sands, Sixth Cavalry, prison adjutant; (7) First Lieut. R. M. Blatchford, Eleventh Infantry, prison commissary; (8) First Lieut. F. Perkins, Eighth Infantry, commanding provost guard.

ENLISTED MEN.

(1) Commissary sergeant, G. Wentzel, U. S. Army; (2) hospital steward, H. O. Cabell, U. S. Army; (3) acting hospital steward, E. Younghanns, U. S. Army, and one private, Hospital Corps.

PROVOST GUARD, GENERAL SERVICE, U. S. ARMY.

First Sergt. J. Yon, Sergt. P. Collins, Sergt. H. Bannon, Sergt. C. F. Miller, Sergt. J. Carmichael, Sergt. E. Edwards, Sergt. W. C. Hill, Sergt. J. Harrington, Corpl. W. E. Garnett, Corpl. J. M. Purcell, Corpl. E. Baker, Corpl. J. A. Lawrence, Corpl. O. A. R. Barany, Corpl. R. Shiels, Corpl. E. Hull, Corpl. H. Sullivan, and 91 privates.

CIVILIAN EMPLOYÉS.

J. C. Ripley, chief clerk of the prison; J. M. Allen, chief clerk of the quartermaster's department; F. E. Collis, clerk in the office of the quartermaster; Geo. Cook, clerk, adjutant's office.

PRISON EMPLOYÉS.

J. H. Case, foreman carpenter shop; N. Mayer, foreman blacksmith shop; R. H. Kingsley, engineer; O. Zeeh, machinist; J. T. Carroll, foreman stonemason; A. P. Schlag, foreman tailor shop; W. Kelly, T. Kelly, L. Young, L. D. Sanders, and D. Driscoll, teamsters; W. Buckley and J. Leonard, watchmen; W. McGlinn, gardener.

QUARTERMASTER'S EMPLOYÉS.

J. McGowan, inspector; D. Aiken and J. Targett, foreman nstructors in the shoe shop; H. H. Bohen, foreman tinner; A. Schiefer, foreman harnessmaker; W. Jackson, forage master.

J. W. POPE,
Captain, A. Q. M., U. S. Army, Commandant.

Third Regiment of Cavalry			1	1	3		12
Fourth Regiment of Cavalry			1	1	3		12
Fifth Regiment of Cavalry			1	1	3		12
Sixth Regiment of Cavalry			1	1	3		12
Seventh Regiment of Cavalry			1	1	3		12
Eighth Regiment of Cavalry			1	1	3		12
Ninth Regiment of Cavalry			1	1	3		12
Tenth Regiment of Cavalry			1	1	3		12
Aggregate of cavalry			10	10	30		120
First Regiment of Artillery			1	1	3		12
Second Regiment of Artillery			1	1	3		12
Third Regiment of Artillery			1	1	3		12
Fourth Regiment of Artillery			1	1	3		12
Fifth Regiment of Artillery			1	1	3		12
Aggregate of artillery			5	5	15		60
First Regiment of Infantry			1	1	1		10
Second Regiment of Infantry			1	1	1		10
Third Regiment of Infantry			1	1	1		10
Fourth Regiment of Infantry			1	1	1		10
Fifth Regiment of Infantry			1	1	1		10
Sixth Regiment of Infantry			1	1	1		10
Seventh Regiment of Infantry			1	1	1		10
Eighth Regiment of Infantry			1	1	1		10
Ninth Regiment of Infantry			1	1	1		10
Tenth Regiment of Infantry			1	1	1		10
Eleventh Regiment of Infantry			1	1	1		10
Twelfth Regiment of Infantry			1	1	1		10
Thirteenth Regiment of Infantry			1	1	1		10
Fourteenth Regiment of Infantry			1	1	1		10
Fifteenth Regiment of Infantry			1	1	1		10
Sixteenth Regiment of Infantry			1	1	1		10
Seventeenth Regiment of Infantry			1	1	1		10
Eighteenth Regiment of Infantry			1	1	1		10
Nineteenth Regiment of Infantry			1	1	1		10
Twentieth Regiment of Infantry			1	1	1		10
Twenty-first Regiment of Infantry			1	1	1		10
Twenty-second Regiment of Infantry			1	1	1		10
Twenty-third Regiment of Infantry			1	1	1		10
Twenty-fourth Regiment of Infantry			1	1	1		10
Twenty-fifth Regiment of Infantry			1	1	1		10
Aggregate of infantry			25	25	25		250
Noncommissioned staff, unattached to regiments							
West Point detachments							
Guard at military prison							
Recruits at depots and en route							
Indian scouts							
General service clerks and messengers							
Grand aggregate	3	14	71	91	218	(a)	609
Military Academy							
Retired	4	34	91	34	61		241

B.—*Position and distribution of troops, by Departments, taken from*

POSTS.	SITUATIONS.	COMMANDING OFFICER.	GARRISONS. Number of companies.	GARRISONS. Regiments.	PRESENT. General officers.	PRESENT. Aides-de-camp.	PRESENT. Adjutant-General's Department.	PRESENT. Inspectors general.	PRESENT. Bureau of Military Justice.
DEPARTMENT OF THE EAST.									
Headquarters	Governor's Island, N. Y.	Maj. Gen. O. O. Howard	..	Department staff.	1	2	1	1	1
Fort Preble, Me	Portland	Capt. R. M. Rogers, 2d Art.	1	2d Art.	..	..	..	..	..
Fort Warren, Mass	Boston Harbor	Maj. W. Sinclair, 2d Art.	2	2d Art.	..	..	..	..	..
Fort Adams, R. I.	Near Newport	Col. R. Lodor, 2d Art.	4	2d and 4th Art.	..	..	..	..	..
Fort Trumbull, Conn.	New London	Capt. J. H. Calef, 2d Art.	1	2d Art.	..	..	..	..	..
Fort Columbus, N. Y.	Governor's Island	Maj. W. L. Haskin, 1st Art.	3	1st Art	..	..	..	..	..
Fort Hamilton, N. Y.	New York Harbor	Col. L. L. Langdon, 1st Art.	4	1st Art	..	..	..	..	..
Fort Niagara, N. Y.	Youngstown	Col. H. Jewett, 21st Inf.	3	21st Inf.	..	..	..	..	..
Fort Ontario, N. Y	Oswego	Capt. A. H. Bowman, 9th Inf.	1	9th Inf.	..	..	..	..	..
Fort Porter, N. Y.	Buffalo	Maj. J. W. Powell, jr., 21st Inf.	2	21st Inf.	..	..	..	..	..
Fort Schuyler, N. Y.	Throg's Neck	Capt. F. C. Grugan, 2d Art.	2	2d Art.	..	..	..	..	..
Fort Wadsworth, N. Y.	New York Harbor	Maj. J. Egan, 1st Art.	3	1st Art	..	..	..	..	..
Fort Wood, N. Y.	Bedloe Island	Capt. A. M. Wetherill, 6th Inf.	1	6th Inf.	..	..	..	..	..
Madison Barracks, N. Y.	Sacketts Harbor	Col. C. G. Bartlett, 9th Inf.	6	9th Inf.	..	..	..	..	..
Plattsburg Barracks, N. Y.	Plattsburg	Capt. M. C. Foote, 9th Inf.	1	9th Inf.	..	..	..	..	..
Fort McHenry, Md	Baltimore	Maj. J. G. Ramsay, 3d Art.	3	3d Art.	..	..	..	..	..
Washington Barracks, D. C.	Washington	Col. L. L. Livingston, 3d Art.	6	3d Art.	..	..	..	..	..
Fort Monroe, Va		Lt. Col. R. T. Frank, 2d Art.	6	1st, 2d, 3d, 4th, and 5th Art.	..	..	..	..	..
Fort Myer, Va	Near Washington, D. C.	Lt. Col. G. V. Henry, 7th Cav.	4	1st, 7th, 8th, and 9th Cav.	..	..	..	..	..
Fort Barrancas, Fla.	Pensacola	Lt. L. H. Walker, 4th Art	1	4th Art.	..	..	..	..	..
St. Francis Barracks, Fla.	St. Augustine	Col. N. W. Osborne, 5th Inf.	2	5th Inf.	..	..	..	..	..
Fort McPherson, Ga.	Atlanta	Col. H. W. Closson, 4th Art.	8	4th Art.	..	..	..	..	..
Jackson Barracks, La.	New Orleans	Lt. J. C. Tillson, 5th Inf.	2	5th Inf.	..	..	..	..	..
Mount Vernon Barracks, Ala.	Mount Vernon	Capt. H. Romeyn, 5th Inf.	3	5th and 12th Inf.	..	..	..	..	..
Newport Barracks, Ky.	Newport	Maj. W. M. Wherry, 6th Inf.	1	6th Inf.	..	..	..	..	..
Fort Thomas, Ky.	Near Newport	Col. M. A. Cochran, 6th Inf.	6	6th Inf.	..	..	..	..	..
Total Department of the East			76		1	2	1	1	1
DEPARTMENT OF THE MISSOURI.									
Headquarters	Chicago, Ill.	Maj. Gen. N. A. Miles	..	Department staff.	1	2	1	1	..
Fort Sheridan, Ill.	Highwood	Col. R. E. A. Crofton, 15th Inf.	9	1st Art. and 15th Inf.	..	..	..	..	..
Fort Brady, Mich.	Sault Ste. Marie	Capt. J. G. Leefe, 19th Inf.	2	19th Inf.	..	..	..	..	..
Fort Mackinac, Mich.	Michilimackinac Island.	Maj. E. M. Coates, 19th Inf.	2	19th Inf.	..	..	..	..	..
Fort Wayne, Mich.	Detroit	Col. G. M. Brayton, 19th Inf.	4	19th Inf.	..	..	..	..	..

the latest returns on file in the Adjutant-General's Office, 1892.

PRESENT.																			ABSENT.						AGGREGATE.		
Quartermaster's Department.	Subsistence Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post chaplains.	Military storekeepers.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and regimental staff officers.	Captains.	Subalterns.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.
3	1	1	7	...	...	...	...	...	...	1	2	...	...	...	1	19	22	41	...	...	...	...	...	...	22	19	41
...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	2	48	4	52	...	...	...	1	1	1	5	48	53
...	...	1	...	...	...	...	...	...	...	1	2	...	...	...	2	114	6	120	...	...	...	4	4	4	10	114	124
...	...	2	...	...	...	...	...	1	...	1	4	...	1	1	9	243	19	262	...	...	...	3	3	3	22	243	265
...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	2	62	4	66	...	...	...	1	1	1	5	62	67
1	...	2	...	...	...	...	...	...	...	...	3	...	...	...	6	171	12	183	...	...	...	3	3	3	15	171	186
...	...	2	...	...	...	...	...	1	...	...	3	...	1	1	9	267	17	284	...	1	1	5	7	7	24	267	291
...	...	1	...	...	...	...	...	1	...	...	3	...	1	1	5	195	12	207	...	...	1	4	5	5	17	195	212
...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	1	63	3	66	...	...	...	1	1	1	4	63	67
...	...	1	...	...	...	...	...	...	...	1	2	...	...	...	4	117	8	125	...	...	...	...	...	...	8	117	125
...	...	1	...	...	...	...	...	...	...	1	1	...	...	...	4	89	7	96	...	...	1	2	3	3	10	89	99
...	...	1	...	...	...	...	...	...	...	1	3	...	...	...	4	178	9	187	...	...	...	5	5	5	14	178	192
...	...	...	...	...	...	...	...	...	...	1	2	...	...	...	...	51	3	54	...	...	...	...	...	...	3	51	54
...	...	1	...	...	...	...	...	1	...	1	4	...	1	1	10	360	19	379	1	...	2	4	7	7	26	360	386
...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	1	59	3	62	...	...	...	1	1	1	4	59	63
...	...	1	...	...	...	...	...	...	...	1	3	...	...	...	5	181	10	191	...	...	...	4	4	4	14	181	195
...	...	2	...	...	...	...	...	1	1	...	6	...	1	1	11	340	23	363	...	...	...	7	7	7	30	340	370
1	1	2	...	...	...	1	...	...	1	2	5	...	...	...	12	340	25	365	...	...	1	6	7	7	32	340	372
...	...	1	...	...	...	...	...	1	...	...	4	...	...	...	8	262	14	276	...	...	...	1	1	1	15	262	277
...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2	53	3	56	...	...	1	1	2	2	5	53	58
...	...	1	...	...	...	...	...	1	...	...	1	...	1	1	3	115	8	123	...	...	1	4	5	5	13	115	128
...	...	2	...	...	...	...	...	1	1	1	7	...	1	1	10	465	24	489	...	...	1	14	15	15	39	465	504
...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2	111	3	114	...	1	2	2	5	5	8	111	119
...	...	1	...	...	...	...	...	...	...	...	2	...	...	...	2	161	5	166	...	1	1	4	6	6	11	161	172
...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	65	3	68	...	...	...	1	1	1	4	65	69
...	...	1	...	...	...	...	...	1	...	...	5	...	1	1	12	364	21	385	...	...	1	3	4	4	25	364	389
5	2	30	7	...	...	1	...	9	3	13	67	...	8	8	128	4,493	287	4,780	1	3	13	81	98	98	385	4,493	4,878
2	1	2	5	1	...	...	...	...	...	1	5	...	...	...	...	18	22	40	...	...	...	...	...	...	22	18	40
1	...	3	...	...	...	...	...	1	...	1	9	...	1	1	15	518	32	550	...	...	1	4	5	5	37	518	555
...	...	1	...	...	...	...	...	...	...	...	2	...	...	...	3	123	6	129	...	...	...	1	1	1	7	123	130
...	...	1	...	...	...	...	...	...	...	1	2	...	...	...	2	124	6	130	...	...	...	2	2	2	8	124	132
...	...	2	...	...	...	...	...	1	1	...	3	...	1	1	5	265	14	279	...	...	3	6	9	9	23	265	288

B.—*Position and distribution of troops, by Departments, taken from the*

POSTS.	SITUATIONS.	COMMANDING OFFICER.	GARRISONS. Number of companies.	GARRISONS. Regiments.	PRESENT. General officers.	PRESENT. Aides-de-camp.	PRESENT. Adjutant-General's Department.	PRESENT. Inspectors-general.	PRESENT. Bureau of Military Justice.
DEPARTMENT OF THE MISSOURI—cont'd.									
Fort Leavenworth, Kans.	.....	Col. E. F. Townsend, 12th Inf.	12	2d, 5th, 9th, and 10th Cav. and 5th 7th, 10th, 12th, 13th, and 14th Inf.	..	..	..	..	..
Fort Riley, Kans	Junction City	Col. J. W. Forsyth, 7th Cav.	11	7th Cav. and 2d, 3d, and 4th Art.	..	..	..	..	..
Fort Supply, Ind. T.	16 miles from Woodward.	Col. M. Bryant, 13th Inf.	6	5th Cav. and 13th Inf.	..	..	..	..	..
Fort Reno, Okla	Near Cheyenne Agency.	Col. J. F. Wade, 5th Cav.	7	5th Cav. and 10th Inf.	..	..	..	..	..
Fort Sill, Okla	65 miles north of Henrietta, Tex.	Maj. Henry Wagner, 5th Cav.	8	5th and 7th Cav. and 13th Inf.	..	..	..	..	..
Total Department of the Missouri			61		1	2	1	1	..
DEPARTMENT OF TEXAS.									
Headquarters	San Antonio, Tex.	Brig. Gen. Frank Wheaton.	..	Department staff.	1	1	1	1	..
Fort Bliss, Tex	El Paso	Maj. J. Henton, 23d Inf.	2	23d Inf	..	..	..	..	..
Fort Brown, Tex	Brownsville	Capt. J. B. Johnson, 3d Cav.	1	3d Cav	..	..	..	..	..
Fort Clark, Tex	Brackettville	Col. H. M. Lazelle, 18th Inf.	6	18th Inf	..	..	..	..	..
Eagle Pass, Tex	.....	Maj. H. W. Wessells, jr., 3d Cav.	1	3d Cav	..	..	..	..	..
Fort Hancock, Tex	Hancock	Capt. G. A. Dodd, 3d Cav.	1	3d Cav	..	..	..	..	..
Fort McIntosh, Tex	Laredo	Maj. G. A. Purington, 3d Cav.	3	3d Cav. and 18th Inf.	..	..	..	..	..
Fort Ringgold, Tex	Rio Grande City	Capt. G. A. Drew, 3d Cav.	3	3d Cav. and 18th Inf.	..	..	..	..	..
Fort Sam Houston, Tex.	San Antonio	Col. J. J. Coppinger, 23d Inf.	10	3d Cav., 3d Art., 5th and 23d Inf.	..	..	..	..	..
Camp Pena Colorado, Tex.	Near Marathon	Capt. O. Elting, 3d Cav.	1	3d Cav	..	..	..	..	..
Total, Department of Texas			28		1	1	1	1	..
DEPARTMENT OF CALIFORNIA.									
Headquarters	San Francisco, Cal.	Brig. Gen. T. H. Ruger	..	Department staff.	1	1	1	1	1
Fort Bidwell, Cal	Surprise Valley	Capt. G. H. G. Gale, 4th Cav.	1	4th Cav	..	..	..	..	..
Fort Mason, Cal	San Francisco	Capt. S. A. Day, 5th Art.	1	5th Art	..	..	..	..	..
Alcatraz Island, Cal	San Francisco Harbor.	Lieut. Col. F. L. Guenther, 5th Art.	2	5th Art	..	..	..	..	..
Angel Island, Cal	San Francisco Harbor.	Col. W. R. Shafter, 1st Inf.	5	1st Inf	..	..	..	..	..
Benicia Barracks, Cal.	Benicia	Lieut. Col. J. S. Casey, 1st Inf.	3	1st Inf	..	..	..	..	..
Presidio, Cal	San Francisco	Col. W. M. Graham, 5th Art.	9	4th Cav. and 5th Art.	..	..	..	..	..
Total, Department of California			21		1	1	1	1	1

latest returns on file in the Adjutant-General's Office, 1892—Continued.

PRESENT.																			ABSENT.						AGGREGATE.		
Quartermaster's Department.	Subsistence Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post chaplains.	Military storekeepers.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and regimental staff officers.	Captains.	Subalterns.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.
1	..	3	..	..	..	1	..	1	1	1	12	...	1	1	66	675	88	763	..	...	...	3	3	3	91	675	766
1	..	4	..	..	..	1	..	1	..	2	10	...	1	1	25	678	46	724	..	...	2	3	5	5	51	678	729
...	..	2	..	..	..	1	..	1	..	1	5	...	...	...	9	307	19	326	..	...	2	5	7	7	26	307	333
...	..	1	..	..	..	1	..	1	1	...	5	...	1	1	9	351	20	371	..	...	3	5	8	8	28	351	379
...	..	2	..	..	..	1	..	..	..	2	6	...	...	...	10	359	21	380	..	1	1	4	6	6	27	359	386
5	1	21	5	1	..	5	..	6	3	9	59	...	5	5	144	3,418	274	3,692	..	1	12	33	46	46	320	3,418	3,738
2	1	1	3	..	1	..	..	..	..	..	1	...	...	...	1	18	14	32	...	...	...	...	...	...	14	18	32
...	..	1	..	..	..	..	..	..	..	1	2	...	...	...	3	107	7	114	..	...	...	1	1	1	8	107	115
...	..	1	..	..	..	..	..	..	..	..	1	...	...	...	2	56	4	60	..	...	...	...	...	...	4	56	60
...	..	1	..	..	..	1	..	1	..	1	4	...	1	1	9	351	19	370	..	...	4	7	11	11	30	351	381
...	..	1	..	..	..	..	..	..	..	1	...	...	...	...	1	60	3	63	..	...	1	1	2	2	5	60	65
...	..	1	..	..	..	..	..	..	..	..	1	...	...	...	1	57	3	60	..	...	...	1	1	1	4	57	61
...	..	1	..	..	..	..	..	..	..	..	2	...	1	1	4	172	9	181	1	2	2	5	10	10	19	172	191
...	..	1	..	..	..	..	..	..	..	..	3	...	...	...	4	160	8	168	..	...	...	2	2	2	10	160	170
...	..	2	..	..	..	..	..	1	1	1	9	...	1	1	18	565	34	599	..	...	3	6	9	9	43	565	608
...	..	1	..	..	..	..	..	..	..	..	1	...	...	...	2	56	4	60	..	...	...	...	...	...	4	56	60
2	1	11	3	..	1	1	..	2	1	4	24	...	3	3	45	1,602	105	1,707	1	2	10	23	36	36	141	1,602	1 743
1	1	1	2	..	..	..	..	..	1	1	...	...	...	...	1	16	13	29	..	...	...	...	...	...	13	16	29
...	..	1	..	..	..	..	..	..	..	..	1	...	...	...	1	61	3	64	..	...	...	1	1	1	4	61	65
...	..	1	..	..	..	..	..	..	..	..	1	...	...	...	2	56	4	60	..	...	...	1	1	1	5	56	61
...	..	1	..	..	..	1	..	..	1	...	2	...	...	...	3	119	8	127	..	...	...	3	3	3	11	119	130
...	..	2	..	..	..	..	..	1	..	1	4	...	1	1	8	290	18	308	..	...	2	5	7	7	23	290	313
...	..	1	..	..	..	..	..	..	1	...	1	...	...	...	5	166	8	174	..	...	2	1	3	3	11	166	177
...	..	3	..	..	..	..	..	1	..	...	6	...	1	1	18	535	30	565	..	1	3	6	10	10	39	535	574
1	1	10	2	..	..	1	..	2	3	2	15	...	2	2	38	1,243	84	1,327	..	1	7	17	25	25	106	1,243	1,349

B.—*Position and distribution of troops, by Departments, taken from the*

POSTS.	SITUATIONS.	COMMANDING OFFICER.	GARRISONS.		PRESENT.				
			Number of companies.	Regiments.	General officers.	Aides-de-camp.	Adjutant-General's Department.	Inspectors-general.	Bureau of Military Justice.
DEPARTMENT OF DAKOTA.									
Headquarters	St. Paul, Minn	Brig. Gen. Wesley Merritt.	..	Department staff.	1	2	1	..	..
Fort Snelling, Minn	Near St. Paul	Col. E. C. Mason, 3d Inf.	8	3d Inf	..	..	..	..	..
Fort Buford, N. Dak		Lieut. Col. J. N. Andrews, 25th Inf.	4	10th Cav. and 25th Inf.	..	..	..	..	..
Fort Pembina, N. Dak		Capt. C. W. Miner, 22d Inf.	1	22d Inf	..	..	..	..	..
Fort Yates, N. Dak	60 miles from Bismarck.	Lieut. Col. R. F. Bernard, 9th Cav.	6	8th Cav., 12th and 22d Inf.	..	..	..	..	..
Fort Meade, S. Dak	Near Sturgis	Col. C. H. Carlton, 8th Cav.	8	3d and 8th Cav.	..	..	..	..	..
Fort Sully, S. Dak	25 miles from Pierre.	Lieut. Col. J. A. P. Hampson, 12th Inf.	4	3d and 12th Inf.	..	..	..	..	..
Fort Yellowstone, Wyo.	Yellowstone Park	Capt. G. S. Anderson, 6th Cav.	1	6th Cav	..	..	..	..	..
Fort Assiniboine, Mont.		Lieut. Col. Evan Miles, 20th Inf.	9	10th Cav. and 20th Inf.	..	..	..	..	..
Fort Custer, Mont	31 miles from Custer Station.	Lieut. Col. David Perry, 10th Cav.	8	1st and 10th Cav. and 25th. Inf.	..	..	..	..	..
Fort Keogh, Mont	Near Miles City	Col. P. T. Swaine, 22d Inf.	9	8th and 10th Cav. and 22d Inf.	..	..	..	..	..
Fort Missoula, Mont.	Missoula	Col. A. S. Burt, 25th Inf.	3	25th Inf	..	..	..	..	..
Camp Poplar River, Mont.	Poplar River Station	Maj. Lloyd Wheaton, 20th Inf.	2	20th Inf	..	..	..	..	..
Total, Department of Dakota			63		1	2	1	..	..
DEPARTMENT OF THE PLATTE.									
Headquarters	Omaha, Nebr	Brig. Gen. J. R. Brooke	..	Department staff.	1	1	1	..	..
Fort Omaha, Nebr	Near Omaha	Lieut. Col. J. B. Parke, 2d Inf.	9	2d Inf	..	..	..	..	..
Fort Niobrara, Nebr	Near Valentine	Capt. C. A. Earnest, 8th Inf.	8	6th Cav. and 8th Inf.	..	..	..	..	..
Fort Robinson, Nebr		Col. James Biddle, 9th Cav.	8	9th Cav. and 8th Inf.	..	..	..	..	..
Fort Sidney, Nebr	Sidney station	Capt. W. H. Boyle, 21st Inf.	1	21st Inf	..	..	..	..	..
Fort Logan, Colo	Denver	Col. H C. Merriam, 7th Inf.	6	7th Inf	..	..	..	..	..
Fort Randall, S. Dak	24 miles from Armour.	Capt. Willis Wittich, 21st Inf.	2	21st Inf	..	..	..	..	..
Fort Douglas, Utah	Near Salt Lake City.	Col. M. M. Blunt, 16th Inf.	9	16th Inf	..	..	..	..	..
Fort DuChesne, Utah	Near Uintah Agency	Maj. J. F. Randlett, 9th Cav.	3	9th Cav. and 21st Inf.	..	..	..	..	..
Fort D. A. Russell, Wyo.	Cheyenne	Col. J. S. Poland, 17th Inf.	8	17th Inf	..	..	..	..	..
Fort McKinney, Wyo	On Clear Fork Creek	Col. J. J. Van Horn, 8th Inf.	6	6th Cav. and 8th Inf.	..	..	..	..	..
Fort Washakie, Wyo	Near Shoshone Agency.	Maj. Emil Adam, 6th Cav.	3	6th Cav. and 8th Inf.	..	..	..	..	..
Camp Pilot Butte, Wyo.	Rock Springs	Capt. Wm. Quinton, 7th Inf.	1	7th Inf	..	..	..	..	..
Total, Department of the Platte			64		1	1	1	..	..

latest returns on file in the Adjutant-General's Office, 1892—Continued.

PRESENT.																			ABSENT.						AGGREGATE.		
Quartermaster's Department.	Subsistence Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post chaplains.	Military storekeepers.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and regimental staff officers	Captains.	Subalterns.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.
3	1	1	4	..	..	..	..	..	1	1	2	..	..	..	....	17	17	34	..	..	..	..	..	..	17	17	34
..	..	2	..	..	..	1	..	1	..	1	7	..	1	1	14	468	28	496	..	..	2	4	6	6	34	468	502
..	..	1	..	..	..	1	..	..	1	1	4	..	..	..	5	235	13	248	..	..	..	3	3	3	16	235	251
..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	61	3	64	..	..	..	..	..	..	3	61	64
..	..	2	..	..	..	1	..	..	1	..	3	..	..	..	8	267	15	282	..	..	3	4	7	7	22	267	289
..	..	2	..	..	..	1	..	1	..	2	6	..	1	1	12	393	20	419	..	1	3	6	10	10	36	393	429
..	..	1	..	..	..	1	..	..	1	..	2	..	..	..	7	164	12	176	..	1	2	1	4	4	16	164	180
..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	2	64	4	68	..	..	..	..	..	..	4	64	68
..	..	2	..	..	..	1	..	..	1	1	8	..	1	1	15	425	30	455	..	1	2	5	8	8	38	425	463
..	..	2	..	..	..	..	..	..	1	1	7	1	1	1	15	438	29	467	..	1	3	5	9	9	38	438	476
..	..	2	..	..	..	1	..	1	1	1	8	..	1	1	12	432	28	460	..	..	2	6	8	8	36	432	468
..	..	1	..	..	..	..	..	1	..	1	3	..	..	1	6	199	13	212	..	..	2	2	4	4	17	199	216
..	..	1	..	..	..	..	..	..	..	1	1	..	..	..	3	98	6	104	..	..	1	1	2	2	8	98	106
3	1	18	4	..	..	7	..	4	7	10	53	1	5	6	101	3,261	224	3,485	..	4	20	37	61	61	285	3,261	3,546
4	2	2	3	..	1	..	..	..	1	1	2	..	..	..	....	18	19	37	..	..	..	..	..	..	19	18	37
..	..	2	..	..	..	..	..	..	1	1	8	..	1	1	12	547	26	573	..	1	2	..	3	3	29	547	576
..	..	3	..	..	..	1	..	..	..	1	4	..	..	1	11	475	21	496	..	3	5	9	17	17	38	475	513
..	..	2	..	..	..	..	..	1	..	1	9	1	1	1	16	478	32	510	..	..	1	4	5	5	37	478	515
..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	1	54	3	57	..	1	..	1	2	2	5	54	59
..	..	2	..	..	..	1	..	1	..	1	5	..	1	1	11	352	23	375	..	..	3	5	8	8	31	352	383
..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	2	94	4	98	..	..	1	2	3	3	7	94	101
..	..	2	..	..	..	..	..	1	..	..	9	..	1	1	14	449	28	477	..	2	1	6	9	9	37	449	486
..	..	1	..	..	..	1	..	..	..	1	2	..	..	..	3	145	8	153	..	..	1	3	4	4	12	145	157
..	..	3	..	..	..	..	..	1	1	1	8	..	1	1	15	448	31	479	..	..	2	5	7	7	38	448	486
..	..	2	..	..	..	..	..	1	..	2	5	..	1	1	11	323	23	346	..	..	2	3	5	5	28	323	351
..	..	2	..	..	..	..	..	..	..	1	2	..	..	..	4	157	9	166	..	..	..	2	2	2	11	157	168
..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	2	50	4	54	..	..	..	..	..	..	4	50	54
4	2	24	3	..	1	3	..	5	3	10	57	1	6	7	102	3,590	231	3,821	..	7	18	40	65	65	296	3,590	3,886

B.—*Position and distribution of troops, by Departments, taken from the*

POSTS.	SITUATIONS.	COMMANDING OFFICER.	GARRISONS.		PRESENT.				
			Number of companies.	Regiments.	General officers.	Aides-de-camp.	Adjutant-General's Department.	Inspectors-general.	Bureau of Military Justice.
DEPARTMENT OF ARIZONA.									
Headquarters	Los Angeles, Cal	Brig. Gen. A. McD. McCook.	..	Department staff.	1	2	1	..	..
Fort Apache, Ariz	90 miles from Holbrook.	Lieut. Col. C. B. McLellan, 1st Cav.	3	1st Cav. and 11th Inf.	..	..	..	..	..
Fort Bowie, Aris	Bowie station	Maj. Thos. McGregor, 2d Cav.	2	2d Cav	..	..	..	..	..
Fort Grant, Ariz	27 miles from Wilcox	Maj. Henry Carroll, 1st Cav.	5	1st Cav	..	..	..	..	..
Fort Huachuca, Ariz.	Huachuca station	Maj. J. T. Haskell, 24th Inf.	7	2d Cav., 11th and 24th Inf.	..	..	..	..	..
San Carlos, Ariz		Capt. E. C. Gilbreath, 11th Inf.	3	1st Cav. and 11th Inf.	..	..	..	..	..
Whipple Barracks, Aris.	Prescott	Col. I. D. DeRussy, 11th Inf.	4	11th Inf	..	..	..	..	..
San Diego Barracks, Cal.	San Diego	Maj. E. W. Whittemore, 10th Inf.	1	10th Inf	..	..	..	..	..
Fort Bayard, N. Mex.	Near Silver City	Lieut. Col. D. D. Van Valzah, 24th Inf.	6	1st Cav. and 24th Inf.	..	..	..	..	..
Fort Marcy, N. Mex.	Santa Fe	Col. E. P. Pearson, 10th Inf.	2	10th Inf	..	..	..	..	..
Fort Stanton, N. Mex	9 miles from Lincoln	Capt. J. N. Wheelan, 2d Cav.	2	2d Cav. and 10th Inf.	..	..	..	..	..
Fort Wingate, N. Mex	Wingate station	Col. G. G. Huntt, 2d Cav.	7	2d Cav. and 10th Inf.	..	..	..	..	..
Total, Department of Arizona			42		1	2	1	..	..
DEPARTMENT OF THE COLUMBIA.									
Headquarters	Vancouver Barracks, Wash.	Brig. Gen. T. H. Ruger	..	Department staff.	..	..	1	..	..
Fort Sherman, Idaho.	Cœur d'Alene	Col. W. P. Carlin, 4th Inf.	5	4th Cav. and 4th Inf.	..	..	..	..	..
Boisé Barracks, Idaho	Boisé City	Maj. W. B. Kennedy, 4th Cav.	2	4th Cav. and 4th Inf.	..	..	..	..	..
Fort Canby, Wash	Mouth of Columbia River.	Capt. Chas. Morris, 5th Art.	2	5th Art	..	..	..	..	..
Fort Spokane, Wash.	Near Spokane Falls.	Lieut. Col. H. C. Cook, 4th Inf.	4	4th Inf	..	..	..	..	..
Fort Townsend, Wash	Port Townsend	Capt. A. H. Bainbridge, 14th Inf.	1	14th Inf	..	..	..	..	..
Vancouver Barracks, Wash.	Vancouver	Col. T. M. Anderson, 14th Inf.	7	4th Cav. and 14th Inf.	..	..	..	..	..
Fort Walla Walla, Wash.	Walla Walla	Col. Anson Mills, 3d Cav.	4	4th Cav	..	..	..	..	..
Total, Department of the Columbia			25		..	..	1	..	..

latest returns on file in the Adjutant-General's Office, 1892—Continued.

PRESENT.																			ABSENT.					AGGREGATE.			
Quartermaster's Department.	Subsistence Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post chaplains.	Military storekeepers.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and regimental staff officers	Captains.	Subalterns.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.
2	1	1	4	..	..	..	..	..	..	1	1	...	...	...	3	12	17	29	..	...	...	...	...	...	17	12	29
...	..	1	..	..	..	1	..	..	1	...	2	...	...	...	4	192	9	201	..	...	1	2	3	3	12	192	204
...	..	1	..	..	..	1	..	..	..	...	1	...	...	...	2	113	5	118	..	...	1	2	3	3	8	113	121
...	..	2	..	..	..	..	..	..	..	2	3	...	1	1	8	261	17	278	..	1	3	4	8	8	25	261	286
...	..	2	..	..	..	1	..	..	..	1	4	...	...	...	7	437	15	452	..	1	3	6	10	10	25	437	462
...	..	1	..	..	..	..	..	..	..	...	3	...	...	...	3	195	7	202	1	...	...	3	4	4	11	195	206
...	..	1	..	..	..	..	..	1	..	1	3	...	1	1	6	244	14	258	..	...	2	4	6	6	20	244	264
...	..	1	..	..	..	..	..	..	..	1	1	...	...	...	2	61	5	66	..	...	...	...	...	...	5	61	66
...	..	2	..	..	..	..	..	..	1	...	5	1	1	1	8	352	19	371	..	1	3	4	8	8	27	352	379
...	..	...	..	..	..	..	..	1	..	...	2	...	1	1	5	130	10	140	..	...	1	...	1	1	11	130	141
...	..	1	..	..	..	..	..	..	..	...	1	...	...	...	3	111	5	116	..	...	1	1	2	2	7	111	118
...	..	2	..	..	..	1	..	1	..	1	5	...	1	1	11	416	23	439	..	1	3	3	7	7	30	416	446
2	1	15	4	..	..	4	..	3	2	7	31	1	5	5	62	2,524	146	2,670	1	4	18	29	52	52	198	2,524	2,722
3	2	1	2	..	1	..	..	..	..	1	1	...	...	...	...	15	12	27	..	...	...	...	...	...	12	15	27
...	..	2	..	..	1	..	..	1	..	1	5	...	1	1	9	268	21	289	..	...	1	3	4	4	25	268	293
...	..	1	..	..	..	..	..	..	..	1	2	...	...	...	2	108	6	114	..	...	...	2	2	2	8	108	116
...	..	1	..	..	..	..	..	..	..	...	2	...	...	...	3	108	6	114	..	...	...	3	3	3	9	108	117
...	..	2	..	..	..	1	..	..	1	...	2	...	...	...	8	187	14	201	..	...	2	...	2	2	16	187	203
...	..	1	..	..	..	..	..	..	..	...	1	...	...	...	2	63	4	67	..	...	1	2	3	3	7	63	70
...	..	2	..	..	..	..	..	1	1	1	4	...	1	1	10	412	21	433	..	...	4	6	10	10	31	412	443
...	..	1	..	..	..	1	..	1	..	1	3	...	1	1	4	212	13	225	..	1	2	6	9	9	22	212	234
3	2	11	2	..	2	2	..	3	2	5	20	...	3	3	38	1,373	97	1,470	..	1	10	22	33	33	130	1,373	1,503

C.—*Military commands and posts, with post-offices, telegraph stations, and nearest railroad stations or boat landings.*

ARMY OF THE UNITED STATES.—Headquarters, Washington, D. C.—Maj. Gen. JOHN M. SCHOFIELD, commanding.

DEPARTMENT OF THE EAST.

Maj. Gen. OLIVER O. HOWARD, commanding.—Headquarters, Governors Island, New York Harbor.

Geographical limits.—The New England States, States of New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Louisiana, Mississippi, Alabama, Kentucky, Tennessee, Ohio, and the District of Columbia.

DEPARTMENT OF THE MISSOURI.

Maj. Gen. NELSON A. MILES, commanding.—Headquarters, Chicago, Ill.

Geographical limits.—States of Michigan, Wisconsin, Indiana, Illinois, Missouri, Kansas, and Arkansas, and Indian and Oklahoma Territories.

DEPARTMENT OF TEXAS.

Brig. Gen. FRANK WHEATON, commanding.—Headquarters, San Antonio, Tex.

Geographical limits.—State of Texas.

DEPARTMENT OF CALIFORNIA.

Brig. Gen. THOMAS H. RUGER, commanding.—Headquarters, San Francisco, Cal.

Geographical limits.—States of California (excepting that portion south of the thirty-fifth parallel) and Nevada.

DEPARTMENT OF DAKOTA.

Brig. Gen. WESLEY MERRITT, commanding.—Headquarters, St. Paul, Minn.

Geographical limits.—States of Minnesota, South Dakota (excepting so much as lies south of the forty-fourth parallel), North Dakota, and Montana, and the post of Fort Yellowstone, Wyo.

DEPARTMENT OF THE PLATTE.

Brig. Gen. JOHN R. BROOKE, commanding.—Headquarters, Omaha, Nebr.

Geographical limits.—States of Iowa, Nebraska, Colorado, and Wyoming (excepting the post of Fort Yellowstone, Wyo.), Territory of Utah, so much of Idaho as lies east of a line formed by the extension of the western boundary of Utah to the north-eastern boundary of Idaho, and so much of South Dakota as lies south of the forty-fourth parallel.

DEPARTMENT OF ARIZONA.

Brig. Gen. ALEXANDER McD. McCOOK, commanding.—Headquarters, Los Angeles, Cal.

Geographical limits.—Territories of Arizona and New Mexico and that portion of California south of the thirty-fifth parallel.

DEPARTMENT OF THE COLUMBIA.

Brig. Gen. THOMAS H. RUGER, commanding.—Headquarters, Vancouver Barracks, Wash.

Geographical limits.—States of Oregon, Washington, and Idaho, and Alaska Territory, excepting much of Idaho as is embraced in the Department of the Platte.

POSTS.

[Those not garrisoned are indicated thus *.]

Adams, Fort, R. I. (Dept. East)—P. O., R. R. and tel. stn. Newport, R. I.; boat from Newport, dist. 3 m.

Alcatras Island, Cal. (Dept. Cal.)—P. O. same; tel. and R. R. stn. San Francisco, Cal., dist. 4 m.; Govt. steamer daily (except Sunday) to post.

Angel Island, Cal. (Dept. Cal.)—P. O. and tel. stn. same; R. R. stn. San Francisco, Cal., dist. 7 m.; Govt. steamer daily (except Sunday) to post.

Apache, Fort, Ariz. (Dept. Ariz.)—P. O. and tel. stn. same; buckboard daily (except Sunday) from Holbrook, on A. and P. R. R., dist. 90 m.

Army and Navy General Hospital, Ark.—P. O., tel. and R. R. stn. Hot Springs, Ark.

Assiniboine, Fort, Mont. (Dept. Dak.)—P. O. and tel. stn. same; R. R. (G. N. R) stn. Assinniboine.

Barrancas, Fort, Fla. (Dept. East)—P. O. Warrington, Fla.; tel. stn. Pensacola Navy Yard, Fla.; R. R. stn. at Pensacola, Fla.; dist. 9 m.; special boat to post.

Bayard, Fort, N. M. (Dept. Ariz.)—P. O. same; tel. and R. R. (A., T. and S. F.) stn. Silver City, dist. 9 m.; stage daily (except Sunday) from Silver City; Govt. tel. to post.

Benicia Barracks, Cal. (Dept. Cal.)—P. O., tel. stn., R. R. stn., and boat ldg., Benicia, Cal., dist. 1 m.

Bidwell, Fort, Cal. (Dept. Cal.)—P. O. same; tel. stn. Alturas, Cal.; R. R. stn. (N. C. and O. R. R.) Amedee, Cal., dist. 135 m.; stage daily except Sundays.

Bliss, Fort, Tex. (Dept. Tex.)—P. O., tel. and R. R. stn. El Paso, Tex., dist. 1½ m.

Boise Barracks, Idaho (Dept. Columbia).—P. O. and tel. stn. Boise City, Idaho; R. R. stn. (O. S. L.) south of Boise River, dist. 2 m.

Bowie, Fort, Ariz. (Dept. Ariz.)—P. O. and tel. stn. same; daily buckboard (except Sunday) from Bowie Station, Ariz., on S. P. R. R., dist. 13 m.

Brady, Fort, Mich. (Dept. Mo.)—P. O., tel. and R. R. stn. (D. S. S. and A. R. R.) Sault Ste. Marie, Mich.

Brown, Fort, Tex. (Dept. Tex.)—P. O., tel. and R. R. stn. (R. G. R. R.) Brownsville, Tex.

Buford, Fort, N. Dak. (Dept. Dak.)—P. O., tel. and R. R. (G. N. R. R.) stn. same.

Canby, Fort, Wash. (Dept. Columbia).—P. O. and tel. stn. at post; daily steamer from Portland, Oregon, to Astoria, dist. 98 m., and thence by steam tug daily to post, dist, 14 m.

**Carroll, Fort, Md.*—P. O. and tel. stn. Baltimore, Md., dist. 6½ m. by water from Light st. wharf.

**Caswell, Fort, N. C.*—P. O. and tel. stn. Southport, N. C., dist. 2 m.; steamer daily from Wilmington to Southport, dist. 22 m.

Clark, Fort, Tex. (Dept. Tex.)—P. O. Brackettville, Tex.; tel. stn. Fort Clark via Spofford Junction, Tex.; daily stage from Spofford Junction, on S. P. R. R., dist. 9 m.

**Clarks Point, Mass., Fort at.*—P. O. and tel. stn. New Bedford, Mass., dist. 4 m.

**Clinch, Fort, Fla.*—P. O., tel. and R. R. stn. Fernandina, Fla., dist. 3 m.

Columbus Barracks, Ohio. (See Recruiting Depots.)

Columbus, Fort, N. Y. (Dept. East).—P. O. New York City; tel. stn. Governors Island, N. Y.; Govt. steamer from New York City, dist. 1½ m.

**Constitution, Fort, N. H.*—P. O. Newcastle, N. H.; tel. and R. R. stn. Portsmouth, N. H.; stage or steamer from Portsmouth, dist. 3 m.

Custer, Fort, Mont. (Dept. Dak.)—P. O. and tel. stn. same; daily stage from Custer Station, on N. P. R. R., dist. 32 m.

D. A. Russell, Fort, Wyo. (Dept. Platte)—P. O., tel. and R. R. (U. P., D. and G.) stn. Fort Russell, Wyo.

Davids Island, N. Y. (See Recruiting Depots.)

**Delaware, Fort, Del.*—P. O. and tel. stn. Delaware City, Del.; daily steamer from Philadelphia to Delaware City, dist. 2 m. from post.

Douglas, Fort, Utah. (Dept. Platte)—P. O., tel. and R. R. stn. Salt Lake City, Utah, dist. 3 m.; city railway to post.

Duchesne, Fort, Utah (Dept. Platte)—P. O. and tel. stn. same; R. R. (R. G. W. R. R.) stn. Price Station, dist. 88 m.; stage line to post.

**Dutch Island, R. I., Fort on.*—P. O. Jamestown, R. I.; tel. stn. Newport, R. I.; steam ferry from Newport to Jamestown, dist. 4 m., and private boat thence to post, dist. 1 m.

**Finns Point, N. J., Battery at.*—P. O., R. R. and tel. stn. Salem, N. J., dist. 6 m.

**Foote, Fort, Md.*—P. O. same; tel. stn. Alexandria, Va.; steamer from Washington, D. C., dist. 9 m.

**Gaines, Fort, Ala.*—P. O., tel. and R. R. stn. Mobile, Ala.; boat from Mobile, dist. 30 m.

**Gorges, Fort, Me.*—P. O., R. R. and tel. stn. Portland, Me., dist. 1½ m.

Grant, Fort, Ariz. (Dept. Ariz.)—P. O. and tel. stn. same; daily stage (except Sunday) from Willcox, on S. P. R. R., dist. 27 m.

Griswold, Fort, Conn.—P. O. Groton, Conn.; tel. and R. R. stn. New London; ferry from New London, dist. 1 m.

Hamilton, Fort, N. Y. (Dept. East)—P. O. and tel. stn. same; city railroad from Brooklyn, dist. 6 m.

Hancock, Fort, Tex. (Dept. Tex.)—P. O. same; tel. and R. R. stn. Fort Hancock Station (on G. H. and S. A. R. R.) dist. 1⅞ m.

Huachuca, Fort, Ariz. (Dept. Ariz.)—P. O. and tel. stn. same; daily buckboard from Huachuca Siding, on N. Mex. and A. R. R., dist. 7 m.

**Independence, Fort, Mass.*—P. O. and tel. stn. Boston, Mass.; Govt. tug from Boston, dist. 3 m.

Jackson Barracks, La. (Dept. East)—P. O. and R. R. stn. New Orleans, La., dist. 6 m.; street cars from New Orleans pass the post; tel. stn. Slaughter House, St. Bernard Parish, La.

**Jackson, Fort, La.*—P. O. Neptune, La.; tel. stn. Quarantine, La.; steamer triweekly from New Orleans, dist. 73 m.

Jefferson Barracks, Mo. (See Recruiting Depots.)

**Jefferson, Fort, Fla.*—P. O. and tel. stn. Key West, Fla.; boat from Key West, dist. 71 m.

**Johnston, Fort, N. C.*—P. O. and tel. stn. Southport, N. C.; steamer daily from Wilmington, N. C., dist. 26 m.

Keogh, Fort, Mont. (Dept. Dak.)—P. O., tel. and R. R. (N. P. R. R.) stn. same.

**Key West Barracks, Fla.* (Dept. East)—P. O., tel. stn. and boat ldg. Key West, Fla.

**Knox, Fort, Me.*—P. O. Prospect Ferry, Me.; tel. and R. R. stn. Bucksport, Me.; ferry from Bucksport, dist. ¾ m.

**Lafayette, Fort, N. Y. H.*—P. O. and tel. stn. Fort Hamilton, N. Y.; city railroad from Brooklyn, dist. 6 m.

Leavenworth, Fort, Kans. (Dept. Mo.)—P. O., tel. and R. R. stn. same.

Leavenworth Military Prison, Kans.—P. O., tel. and R. R. stn. Fort Leavenworth, Kans.

**Livingston Fort, La.*—P. O. Grand Isle, La.; tel. stn. New Orleans, La.; steamer weekly from New Orleans, dist. 95 m.

Logan, Fort, Colo. (Dept. Platte) (10 miles south of Denver.)—P. O., tel., and R. R. stn.

Mackinac, Fort, Mich. (Dept. Mo.)—P. O and tel. stn. Mackinac Island, Mich.; boat from Mackinaw City, dist. 11 m., and from St. Ignace, Mich., dist. 5 m.; steamboats from Chicago, Detroit, and other lake ports arrive daily from June 1 to November 1. During winter by crossing ice, or by boat from St. Ignace, Mich.

**Macon, Fort, N. C.*—P. O. Beaufort, N. C.; tel. and R. R. stn. Morehead City, N. C., dist. 2 m.

Madison Barracks, N. Y. (Dept. East.)—P. O., tel., and R. R. stn. Sacketts Harbor, N. Y.

Marcy, Fort, N. Mex. (Dept. Ariz.)—P. O., tel., and R. R. stn. Santa Fe, N. Mex.

**Marion, Fort, Fla.* (Dept. East.)—P. O., tel. and R. R. stn. St. Augustine, Fla.

Mason, Fort, Cal. (Dept. Cal.)—P. O. Station A, San Francisco, Cal.; R. R. stn. San Francisco, Cal., dist. 3 m.; street cars ½ m. from post; tel. stn. at post.

**McCleary, Fort, Me.*—P. O., tel., and R. R. stn. Kittery Point, Me.

McHenry, Fort, Md. (Dept. East.)—P. O., tel., and R. R. stn. Baltimore, Md.

McIntosh, Fort, Tex. (Dept. Tex.)—P. O., tel., and R. R. stn. Laredo, Tex.

McKinney, Fort, Wyo. (Dept. Platte.)—P. O. and tel. stn. same; daily stage from Douglas, on F. E. and M. V. R. R., dist. 148 m., Fort Custer Station, Mont., on N. P. R. R., dist. 160 m., and from Suggs, Wyo., on B. and M. R. R., dist. 55 m.

McPherson, Fort, Ga. (Dept. East.)—P. O., tel., and R. R. stn. Atlanta, Ga., dist. 4 m.

Meade, Fort, S. Dak. (Dept. Dak.)—H. O. same; tel. and R. R. (F. E. and M. V.) stn. Sturgis City, dist. 3 m.

**Mifflin, Fort, Pa.*—P. O. Paschallville, stn. Philadelphia, Pa.; R. R. and tel. stn. Philadelphia, Pa., dist. 5 m.

Missoula, Fort, Mont. (Dept. Dak.)—P. O. same; tel. and R. R. (N. P.) stn. Missoula, Mont., dist. 4 m.

Monroe, Fort, Va. (Dept. East.)—P. O. and tel. stn. same; steamers daily from Baltimore, Washington, Norfolk, and New York, and railroad (C. and O.) from Richmond, Va.

**Montgomery, Fort, N. Y.*—P. O., tel., and R. R. stn. Rouses Point, N. Y., dist. 1¼ m.

**Morgan, Fort, Ala.*—P. O. Herndon, Ala.; tel. stn. at post; steamer from Mobile, dist. 30 m.

**Moultrie, Fort, S. C.*—P. O. Moultrieville, S. C.; tel. and R. R. stn. Charleston, S. C., dist. 5 m.

Mount Vernon Barracks, Ala. (Dept. East.)—P. O., tel., and R. R. stn. Mount Vernon, Ala.

Myer, Fort, Va. (Dept. East.)—P. O. and R. R. stn. Washington, D. C.; telephone to post.
Newport, Barracks, Ky. (Dept. East.)—P. O., tel., and R. R. stn. Newport, Ky.
Niagara, Fort, N. Y. (Dept. East.)—P. O. and tel. stn. Youngstown, N. Y.; R. R. stn. Lewiston, N. Y., dist. 7 m.
Niobrara, Fort, Nebr. (Dept. Platte.)—P. O. same; tel. stn. Valentine, Nebr.; R. R. (F. E. and M. V.) stn. Valentine, Nebr., dist. 4½ m.
**Oglethrope, Fort, Ga.*—P. O., tel., and R. R. stn. Savannah, Ga., dist. 3 m.
Omaha, Fort, Nebr. (Dept. Platte.)—P. O. and R. R. stn. (F. E. and M. V.) same; tel. (telephone to post) stn. Omaha, Nebr.
Ontario, Fort, N. Y. (Dept. East.)—P. O., tel., and R. R. stn. Oswego, N. Y.
Pembina, Fort, N. Dak. (Dept. Dak.)—P. O., R. R., and tel. stn. Pembina, N. Dak., dist. 2 m.
Pena Colorado, Camp, Tex. (Dept. Tex.)—P. O., tel., and R. R. stn. Marathon, Tex., on G., H. and S. A. R. R., dist. 4 m.
**Phœnix, Fort, Mass.*—P. O., R. R. and tel. stn. Fairhaven, Mass.
**Pickens, Fort, Fla.*—P. O. Warrington, Fla.; tel. stn. Pensacola navy-yard; R. R. stn. at Pensacola, Fla., dist. 10 miles.
Pilot Butte Camp, Wyo. (Dept. Platte.)—P. O., tel., and R. R. (U. P.) stn. Rock Springs, Wyo.
Plattsburg Barracks, N. Y. (Dept. East.)—P. O., tel., and R. R. stn. Plattsburg, N. Y.
**Popham, Fort, Me.*—P. O. Popham Beach, Me.; tel. and R. R. stn. Bath, Me., dist. 12 m. by water, 15 m. by land.
Poplar River, Camp, Mont. (Dept. Dak.)—P. O., tel., and R. R. (G. N.) stn. Poplar River Station.
Porter, Fort, N. Y. (Dept. East.) P. O., tel., and R. R. stn. Buffalo, N. Y.
Preble, Fort, Me. (Dept. East.) P. O., tel. and R. R. stn. Portland, Me., dist. 1¾ m.
Presidio of San Francisco, Cal. (Dept. Cal.)—P. O. and tel. stn. same; R. R. stn. San Francisco, Cal., dist. 4½ m.; city railway to post.
**Pulaski, Fort, Ga.*—P. O., R. R., and tel. stn. Savannah, Ga., dist. 14 m.
Randall, Fort, S. Dak. (Dept. Platte.)—P. O. same; tel. and R. R. stn. Armour, S. Dak., dist. 24 m.; buckboard daily (except Sunday) and triweekly stage from O'Neill, Nebr., on F. E. and M. R. R., dist. 47 m.
Reno, Fort, Okh. T. (Dept. Mo.)—P. O. and tel. stn. same; R. R. stn. El Reno, Okh. T., on C. R. and P. R. R., dist. 5¾ m.
Riley, Fort, Kans. (Dept. Mo.)—P. O., tel., and R. R. stn. same.
Ringgold, Fort, Tex. (Dept. Tex.)—P. O. Rio Grande City, Tex.; tel. stn. at post; stage from Brownsville, Tex., dist. 117 m., and from Pena, on T. M. R. R., dist. 72½ m., and from San Miguel, Mex., on Mex. N. R. R., dist. 23 m.
Robinson, Fort, Nebr. (Dept. Platte.)—P. O., tel., and R. R. (F. E. and M. V.) stn. same.
Sam Houston, Fort, Tex. (Dept Tex.)—P. O., tel., and R. R. stn. San Antonio, Tex.
San Carlos, Ariz. (Dept. Ariz.)—P. O. and tel. stn. same; daily stage (except Sunday) from Bowie, on S. P. R. R. (via Fort Thomas), dist. 102 m., and triweekly from Willcox, via Forts Grant and Thomas, dist. 106 m.; regular stage to post.
San Diego Barracks, Cal. (Dept. Ariz.)—P. O., tel., and R. R. (C. S.) stn. and boat ldg. San Diego, Cal.
**Sandy Hook, N. J., Fort at.*—P. O. New York City; tel. and R. R. stn. Sandy Hook, N. J., dist. 2 m.; Govt. str. from New York, dist. 20 m.
**Scammel, Fort, Me.*—P. O., tel., and R. R. stn. Portland, Me., dist. 2 m.
Schuyler, Fort, N. Y. (Dept. East.)—P. O., tel., and R. R. stn. West Chester, N. Y., dist. 3½ m.
**Sewall, Fort, Mass.*—P. O., tel., and R. R. stn. Marblehead, Mass., dist. 1½ m.
Sheridan, Fort, Ill. (Dept. Mo.)—P. O., R. R., and tel. stn. same.
Sherman, Fort, Idaho (Dept. Columbia).—P. O. Sherman, Idaho; tel. and R. R. stn. Coeur d'Alene, Idaho (on branch N. P. R. R.), dist. ¾ m.
**Ship Island, Miss., Fort at.*—P. O., tel., and R. R. (L. and N.) stn. Biloxi, Miss., dist. 15 m.; special boat to post.
Sidney, Fort, Nebr. (Dept. Platte.)—P. O., tel., and R. R. (U. P.) stn. Sidney, Nebr.
Sill, Fort, Okh. T. (Dept. Mo.)—P. O. and tel. stn. same; stage daily from Rush Springs, Ind. T., on C., R. I. and P. R. R., dist. 29 m.
Snelling, Fort, Minn. (Dept. Dak.)—P. O., tel., and R. R. stn. same; electric st. R. R. to St. Paul, Minn.
Spokane, Fort, Wash. (Dept. Columbia.)—P. O. and tel. stn. Miles, Wash.; daily stage (except Sunday) from Davenport, on N. P. R. R., dist. 25 miles.
Stanton, Fort, N. Mex. (Dept. Ariz.)—P. O. and tel. stn. same; stage daily from Carthage, N. Mex., on A., T. and S. F. R. R., dist. 100 m.
**Stevens, Fort, Oreg.*—P. O. and tel. stn. (Govt. tel. to post) Astoria, Oreg.; steamer daily from R. R. stn., Portland, Oreg., to Astoria, dist. 98 m.; from thence by steam tug daily (except Sunday) to post, dist. 7 m.

St. Francis Barracks, Fla. (Dept. East.)—P. O., tel., and R. R. stn. St. Augustine, Fla.
**St. Philip, Fort, La.*—P. O. Neptune, La.; tel. stn. Old Quarantine stn. La.; steamer triweekly from New Orleans, dist. 73 m.
Sully, Fort, S. Dak. (Dept. Dak.)—P. O. and tel. stn. same; R. R. (C. and N. W.) stn. Pierre, S. Dak., dist. 23 m.
**Sumter, Fort, S. C.*—P. O. Moultrieville, S. C.; tel. and R. R. stn. Charleston, S. C., dist. 5 m.
Supply, Fort, Ind. T. (Dept. Mo.)—P. O. and tel. stn. same; R. R. stn. Woodward, Ind. T., on A., T. and S. F. R. R., dist. 15 m.; daily stage to post.
**Taylor, Fort, Fla.*—P. O., tel. stn. and boat landing Key West, Fla.
Thomas, Fort, Ky. (Dept. East.)—P. O., tel., and R. R. stn. Newport, Ky. dist. 3 m.
Townsend, Fort, Wash. (Dept. Columbia.)—P. O. and tel. stn. Port Townsend, Wash., dist. 3 m.
Trumbull, Fort, Conn. (Dept. East.)—P. O., tel., and R. R. stn. New London, Conn., dist. 1 m.
Vancouver Barracks, Wash. (Dept. Columbia.)—P. O. and boat ldg. Vancouver, Wash.; tel. stn. Vancouver Barracks, Wash.; boat from Portland Oreg., daily (except Sunday), dist. 18 m., or by ferry and motor line to Portland, dist. 6 m.
Wadsworth, Fort, N. Y. (Dept. East.)—P. O. Rosebank, Staten Island, N. Y.; tel. stn. Quarantine, Clifton, Staten Island, N. Y.
Walla Walla, Fort, Wash. (Dept. Columbia.)—P. O., tel., and R. R. (N. P.) stn. Walla Walla, Wash., dist. 1 m.
Warren, Fort, Mass. (Dept. East.)—P. O. and tel. stn. Boston, Mass.; steamer from Boston, dist. 7 m.
Washakie, Fort, Wyo. (Dept. Platte.)—P. O. and tel. stn. same; daily stage from Rawlins, Wyo., on U. P. R. R., dist. 147 m.
Washington Barracks, D. C. (Dept. East.)—P. O., tel., and R. R. stn. Washington, D. C.
**Washington, Fort, Md.*—P. O. same; tel. stn. Alexandria. Va.; stmbt. from Washington, D. C., dist. 13 m.
Wayne, Fort, Mich. (Dept. Mo.)—P. O. and tel. stn. Detroit, Mich.; city railway from Detroit, dist. 4 m.
West Point, N. Y. (U. S. Mil. Acad.)—P. O., tel., and R. R. stn. same.
Whipple Barracks, Ariz. (Dept. Ariz.)—P. O. and tel. stn. Whipple; R. R. (P. and A. C.) stn. Prescott, Ariz.
Willetts Point, N. Y. (U. S. Engineer School.)—P. O. and tel. stn. same; R. R. stn. Whitestone, N. Y., dist. 2½ m. (See Engineer Depot.)
**Winfield Scott, Fort, Cal.* (Dept. Cal.)—P. O. and tel. stn. Presidio of San Francisco, Cal.; R. R. stn. San Francisco, Cal.
Wingate, Fort, N. Mex. (Dept. Ariz.)—P. O. and tel. stn. same; R. R. (A. and P.) stn. Wingate, dist. 3 m.
**Winthrop, Fort, Mass.*—P. O. and tel. stn. Boston, Mass., steamboat from Boston, dist. 2 m.
Wood, Fort, Bedloes Island, N. Y. (Dept. East.)—P. O., tel., and R. R. stn. N. Y. City.
Yates, Fort, N. Dak. (Dept. Dak.)—P. O. and tel. stn. same; stage daily (except Sunday), from Bismarck, on N. P. R. R., dist. 60 m.
Yellowstone, Fort, Wyo. (Dept. Dak.)—P. O. and tel. stn. Mammoth Hot Springs, Wyo.; R. R. stn. Cinnabar, Mont., via Livingston, on N. P. R. R., dist. 8 m.

ARMORIES, ARSENALS, AND DEPOTS.

ARMORIES, ARSENALS, AND ORDNANCE DEPOTS.

Allegheny Arsenal, Pa.—P. O., tel., and R. R. stn., Pittsburg, Pa.; Maj. F. H. Phipps, comdg.
Augusta Arsenal, Ga.—P. O., tel., and R. R. stn., Augusta, Ga., dist. 3 m.; electric R. R. from Augusta to Arsenal; Maj. J. G. Butler, comdg.
Benicia Arsenal, Cal.—P. O., tel., R. R. stn., and boat landing, Benicia, Cal., dist. 1 m.; Lieut. Col. L. S. Babbitt, comdg.
Columbia Arsenal, Tenn.—P. O., tel., and R. R. stn., Columbia, Tenn.; Maj. Isaac Arnold, jr., comdg.
Fort Monroe Arsenal, Va.—P. O. and tel. stn., Fort Monroe, Va.; stmbts. daily from New York, Baltimore, Washington, and Norfolk, and railroad (C. and O.) from Richmond, Va.; Lieut. Col. W. A. Marye, comdg.
Fort Snelling Ordnance Depot, Minn.—P. O., tel., and R. R. stn., Fort Snelling, Minn.; Capt. William Gerlach, 3d Inf., comdg.
Frankford Arsenal, Pa.—P. O. (Station F) and tel. stn. (telephone to post), Philadelphia, Pa.; Lieut. Col. J. P. Farley, comdg.
Indianapolis Arsenal, Ind.—P. O., tel., and R. R. stn., Indianapolis, Ind.; Maj. A. L. Varney, comdg.

Kennebec Arsenal, Me.—P. O., tel., and R. R. stn., Augusta, Me.; Maj. J. R. McGinness, comdg.

New York Arsenal, N. Y.—P. O. New York City; tel. stn. Governors Island, N. Y.; Govt. steamer from New York City, dist. 1½ m.; Maj. Clifton Comly, comdg.

Omaha Ordnance Depot, Nebr.—P. O., tel., and R. R. stn., Omaha, Nebr.; Capt. J. C. Ayres, comdg.

Rock Island Arsenal, Ill.—P. O. and tel. stn., Rock Island, Ill.; special conveyance from R. R. stns. and boat ldgs. in Rock Island, Ill., and Davenport, Iowa, dist. 2 m.; Col. A. R. Buffington, comdg.

St. Louis Powder Depot, Mo.—P. O., tel., and R. R. stn., Jefferson Barracks, Mo.; Maj. J. A. Cress, comdg.

San Antonio Arsenal, Tex.—P. O., tel., and R. R. stn., San Antonio, Tex.; Maj. C. E. Dutton, comdg.

Springfield Armory, Mass.—P. O., tel., and R. R. stn., Springfield, Mass.; Col. A. Mordecai, comdg.

U. S. Powder Depot, N. J.—P. O., tel. (telephone to post), and R. R. stn., Dover, N. J., dist. 4½ m.; Col. J. M. Whittemore, comdg.

Vancouver Barracks Ordnance Depot, Wash—P. O and boat ldg., Vancouver, Wash.; tel. stn., Vancouver Barracks, Wash.; boat from Portland, Oreg., daily, dist. 18 m.; hourly communication with Portland by ferry and motor line, dist. 6 m.; Capt. C H. Clark, comdg.

Watertown Arsenal, Mass.—P. O., tel., and R. R. stn., Watertown, Mass.; Maj. J. W. Reilly, comdg.

Watervliet Arsenal, N. Y—P. O and tel. stn. (telephone to post), West Troy, N. Y.; R. R. stn Troy, N. Y., dist. 1 m.; electric street cars to Albany, N. Y.; Maj. Cullen Bryant, comdg.

RECRUITING DEPOTS.

Columbus Barracks, Ohio.—P O. and R. R. stn. Columbus, Ohio; tel. stn. at post; Lieut. Col. Simon Snyder, 10th Inf., comdg.

Davids Island, N. Y.—P. O. same; tel. stn. New Rochelle, N Y.; horse car and boat from New Rochelle, dist. 3 m., Lieut. Col. A. T. Smith, 8th Inf., comdg.

Jefferson Barracks, Mo.—P. O., tel., and R. R. stn. same; Lt. Col. S. B. M. Young, 4th Cav., comdg.

ENGINEER DEPOT.

Willets, Point, N. Y.—P. O. and tel. stn. same; R. R. stn. Whitestone, Queens County, N. Y., dist. 2½ m.; Lt. Col. W. R. King, comdg.

HEADQUARTERS OF REGIMENTS.

CAVALRY.

1. Fort Grant, Ariz.
2. Fort Wingate, Ariz.
3. Fort McIntosh, Tex.
4. Fort Walla Walla, Wash.
5. Fort Reno, Okla.
6. Fort Niobrara, Nebr.
7. Fort Riley, Kans.
8. Fort Meade, S. Dak.
9. Fort Robinson, Nebr.
10. Fort Custer, Mont.

ARTILLERY.

1. Fort Hamilton, N. Y.
2. Fort Adams, R. I.
3. Washington Barracks, D. C.
4. Fort McPherson, Ga.
5. Presidio of San Francisco, Cal.

INFANTRY.

1. Angel Island, Cal.
2. Fort Omaha, Nebr.
3. Fort Snelling, Minn
4. Fort Sherman, Idaho.
5. St. Francis Barracks, F a.
6. Fort Thomas, Ky.
7. Fort Logan, Colo.
8. Fort McKinney, Wyo.
9. Madison Barracks, N. Y.
10. Fort Marcy, N. Mex.
11. Whipple Barracks, Ariz.
12. Fort Leavenworth, Kans.
13. Fort Supply, Ind. T.
14. Vancouver Barracks, Wash.
15. Fort Sheridan, Ill.
16. Fort Douglas, Utah.
17. Fort D. A. Russell, Wyo.
18. Fort Clark, Tex.
19. Fort Wayne, Mich.
20. Fort Assinniboine, Mont.
21. Fort Niagara, N. Y.
22. Fort Keogh, Mont.
23. Fort Sam Houston, Tex.
24. Fort Bayard, N. Mex.
25. Fort Missoula, Mont.

ADJUTANT GENERAL'S OFFICE,
Washington, D. C., September 7, 1892.

D.—*Statement showing gain and loss in the enlisted strength of the Army during the fiscal year ended June 30, 1892.*

GAIN.

Enlisted	7,950
Reënlisted	2,328
From desertion	590
Total	10,868

LOSS.

Expiration of service	3,537
For disability	602
By purchase	880
For fraudulent enlistment	394
By favor	100
As veterans	206
For minority	185
Under G. O., No. 80, of 1890	1,452
By sentence of G. C. M	836
For other causes	362
By promotion	12
Killed in action	2
Died of wounds	1
Died of disease, etc	158
Retired	122
Deserted	1,382
Total	10,231
Enlisted strength June 30, 1891	24,123
Gain	10,868
	34,991
Loss	10,231
Enlisted strength June 30, 1892	24,760

NOTE.—There were in the Army (included in the strength) on June 30, 1892:

Hospital corps	769
Signal corps	50
General-service clerks and messengers	169
Total	988
Indians belonging to the line of the Army	780
Indian scouts	108

REPORT OF MAJ. GEN. HOWARD.

HEADQUARTERS DEPARTMENT OF THE EAST,
Governors Island, N. Y., September 14, 1892.

SIR: I have the honor to submit the following annual report for the information of the Major-General Commanding the Army:

There are at present in the Department of the East, by the last return, dated July 31, 1892, twenty-five garrisoned posts and thirty-nine posts not garrisoned.

There are in the command 4 troops of cavalry, 41 foot batteries of artillery, 3 light batteries of artillery, and 35 companies of infantry (including 7 skeleton companies), in all an aggregate of 388 commissioned officers and 4,500 enlisted men.

The posts not garrisoned are each in charge of an ordnance sergeant, except in the cases of Forts Lafayette and Marion, which are in charge of the commanding officers of Fort Hamilton and St. Francis Barracks, respectively.

In May, 1892, orders were issued looking to the preparation of Key West barracks for occupation by troops.

CHANGE OF STATION OF TROOPS.

Troop F, Seventh Cavalry, headquarters, staff and band, and companies A, B, C, D, E, F, G, H, I, and K, Ninth Infantry, headquarters, staff and band, and companies A, B, C, E, H, and K, Twenty-first Infantry, have joined the department, and headquarters, staff and band, and companies A, B, C, D, E, F, and G, Eleventh Infantry, have left the department since August 31, 1891.

INSTRUCTION OF TROOPS.

The progress in the instruction of troops has been satisfactory. The reports from the artillery target practice shows improved records and reduced "mean deviations." New artillery material is supplied but slowly. The cavalry have had no target practice, owing to lack of proper target range. It is hoped that next season some means may be devised to furnish them facilities to carry on the necessary practice. The infantry target practice has been efficient. The annual department competition takes place at Fort Niagara, N. Y., beginning September 5, 1892.

The new drill regulations have been received and meet with general commendation. Practice marches have been had by the four troops of cavalry at Fort Myer, Va., the light battery stationed at Fort Adams, R. I., and the Indian company at Mount Vernon Barracks, Ala.

The reports all show the excellent results of these marches and the interest taken in them by both officers and men. I heartily approve of these outings for the troops, and recommend that as liberal a provision as possible be made by the quartermaster's department to meet necessary expenses of hiring camp grounds, paying toll, and meeting other charges.

LYCEUMS.

From the reports received from the commanding officers concerning the lyceums, I regard them as conducing to professional proficiency in a high degree. At some of the smaller garrisons, where but two or three officers can attend, the recitative feature becomes somewhat tiresome. In fact there are many recommendations to dispense with the recitations altogether. And considering that examinations are requisite to promotion, it may be wise to modify the lyceum in this respect. It is certainly best to make this course not only entertaining but especially practical. Whatever directly pertains to the details of field operations on campaigns or trial marches will always be of special interest, and the young officer can not be made too familiar with them.

The detailed statement of the work accomplished, which the Major-General Commanding the Army has required in his instructions, appears to be too extended to be embodied in this report. I therefore submit it as a separate document.

POST SCHOOLS.

The reports show an attendance of 991 enlisted men and 85 children at the post schools—an excellent exhibit. The plan of oral instruction and lectures by officers is recommended, as also the formation of classes in special subjects when desired by a sufficient number of enlisted men.

INDIAN COMPANY.

The Indian company at Mount Vernon, Ala., composed of Apaches, has made marked and satisfactory progress, and this not only in a military sense, but also in the direction of civilization. The company is now comfortably quartered, and the labor has been furnished by the Indians themselves, and in this direction they have shown considerable skill as workmen. The new Indian village for the Indian prisoners has been built by the Indians, with good drainage, a swimming tank constructed, and a number of steam bath houses, and also an addition to the schoolhouse. The water supply is very limited, and it would be well to increase this so as to improve the sanitary condition.

The mortality among these Indians has been very large during the past year, but this is not extraordinary, because it is due to natural causes, and I think will diminish as these Indians become more thoroughly acclimated and accustomed to their new mode of life.

The recruiting of this company has been at San Carlos, Ariz., and at Carlisle, Pa., from the latter place the men are young and educated, and this company offers an opening to these young men to continue their education, gives them at once a means of livelihood. Seven recruits were obtained at Carlisle, Pa., a number of applicants having been rejected on account of physical disability. In conclusion, it may be stated that the progress and condition of this Indian company is satisfactory, and especially encouraging to those who advocated this Indian experiment.

INDIAN PRISONERS OF WAR.

The number of Indian prisoners of war at Mount Vernon Barracks on September 1, 1892, were: 33 men, 162 women, 12 boys, and 5 girls over and 67 boys and 61 girls under 12 years of age; total, 340. The health continues fairly good. Consumption is developed much more

slowly than formerly, and a marked decrease in skin eruptions is reported, showing that cleanliness and improved sanitary conditions are having good effect. During August, 1892, 28 were transferred from the Indian company to Fort Huachuca.

An agreement has been signed by the citizens in the vicinity of the Indian village not to sell liquor either to the Indian soldiers or prisoners, and the post exchange has been closed to the company. Drunkenness has almost absolutely disappeared and the men and women have used the money they have earned in adding to the comfort of their homes and families.

Lieutenants Wotherspoon, Twelfth Infantry, and Baker, Twenty-fourth Infantry, and the assistant surgeon in immediate charge have had an unusual problem to solve. They are entitled to special credit for fidelity and success.

POST EXCHANGE.

The post exchange in the department presents the appearance of a small country store or refreshment room in all the premises excepting in the room where "the beer" is served. There seems to be nothing particularly objectionable until this room is reached. When one enters this he is immediately met with disagreeable odors. The impression is irresistible that here beer is easily and cheaply procured, so that it is constantly forced upon the attention of the enlisted man. He is indeed always tempted to indulge in its use. While visiting these beer rooms I have talked with several commanding officers upon the subject of the supply to the soldiers, and they have generally agreed with me that it would be well to abolish the sale of this beer entirely, and to substitute for it other beverages. There seems, as I have before reported, a great objection to having a soldier in the uniform of the United States behind a counter dealing out beer like a barkeeper in a common resort. The commanding officers, without exception, object to this. If there must be barkeepers in the service they should be hired for that purpose. Just now, under the present system, soldiers appear to be more generally led to drink and to the offenses that go with drinking than under the old sutler and post-trader systems. I am strongly convinced by the actual experiment that, while a few drunkards are moderated in their affliction by strong beer, the remaining soldiers who fall under temptation are worse off, and that military offenses are rather increased in number and aggravation.

CONSTRUCTION AT POSTS.

The necessity for vacating casemates becomes more and more urgent as they become older, and more moist and moldy. At least four sets of quarters are required at Fort Columbus to get the officers out of the fort, and an amusement hall is necessary. In it the post exchange might be established. Its present location in the quarters is offensive.

Buildings have been constructed at the different posts as follows:

At Fort Monroe, Va., three double sets of officers' quarters and two double sets N. C. S. officers' quarters; at Fort Preble, Me., a Q. M. stable; at Fort Schuyler, N. Y., a mess hall; at Fort Wadsworth, a coal shed; at Jackson Barracks, a bath house and commissary storehouse; at Mount Vernon Barracks, Ala., a set of barracks for the Indian company, a hospital, and a set of officers' quarters; at Washington Barracks, a coal shed. New quarters for hospital stewards were erected at Forts Columbus and Porter. The dock at Fort Hamilton is

rebuilt; that at Fort Monroe, extended. The sea wall at Governors Island is now about completed, and it is built at or near low-water line, thus preventing the landing of drift or refuse of any kind. About 3½ acres of area have been thus acquired.

THE NEW YORK LANDING FOR THE GOVERNORS ISLAND BOAT.

The attention of the Major-General Commanding the Army is called to the fact of the temporary arrangement that was made between the War and Treasury Departments to change place of the landing of all the population of Governors Island, probably five hundred in number, from the Barge Office slip to Pier No. 3, East River. For the safety of all concerned, as well as for their convenience and comfort, I have earnestly entreated that this arrangement be annulled and that I may receive an order to go back to the old landing or Barge Office dock. To this all parties at Washington seem to have agreed, and yet, for some reason unknown to me, the actual order has not yet been issued, or, if issued by the Treasury Department, it has not been executed. Should a serious accident occur in consequence of the necessity of crossing several lines of ferries, it will be bad indeed. I can see no reason whatever to prevent the return, except a desire of some local officials to have the whole dock for other uses, and especially for the revenue cutters. The exchange of the latter, or such part of them as may be necessary, to Pier No. 3, would not in any way mar the service and would relieve the danger by allowing our steamer, which runs once every half hour for most of each day, to take the straight and natural crossing from the Island to the Battery. The State of New York, in granting the use of this latter water front to the United States, specifies in distinct terms that a portion of it shall be for the landing of the Governors Island barge. I can not doubt that we shall in time be relieved from this difficulty; yet there has been thus far an unaccountable delay in bringing it to pass—about two years—and a delay that has involved much misunderstanding and complaint as well as danger.

DESERTIONS.

The desertions from the Department of the East during the fiscal year ending June 30, 1892, were 271.

The percentage of desertions for the fiscal year 1888–'89 was 12.21; 1889–'90, 8.06; 1890–'91, 7.17; 1891–'92, 6.29, which shows a continued falling off, a decrease of nearly 50 per cent from that in 1888–'89.

A table showing number of desertions, with a special report on the same, has just been forwarded to the War Department.

An officer of considerable observation and experience recently remarked that the causes of desertion, by those who are not criminally disposed, proceed, in the main, from the restlessness of men who have been long accustomed to frequent changes of residence. After a time, he says, this roving spirit, if not relieved by changes of duty and change of scene, becomes almost intolerable. This statement is doubtless to some extent true, so that it may be well to change our troops from garrison to garrison or from one part of the country to another even more frequently than we do.

As restlessness and depression of mind proceed from diametrically opposite causes, of course the true remedy is somehow to raise the moral standard. The better the men are morally, the more contented they are.

There appears to be a common error in the community at large, which is condensed in this statement, viz: "The soldier in time of peace has nothing to do." Often the recruit joins his station having this idea in his mind. He will not be long in ascertaining its falsity; but I believe that many a man when he finds that it requires untiring work, care, and diligence to do his whole duty as a soldier, becomes thereby discontented, and so seeks to escape from harder conditions than those of civil life, perhaps not on account of the work itself, but on account of the unremitting exactions of military routine.

My conclusion is that where it is not difficult to procure recruits, really volunteers, it is wise to have them, beforehand, thoroughly understand the conditions of the service into which they propose to enter.

The results obtained from regimental recruiting have been generally satisfactory. A large number of young men from the rural districts are enlisting, thus furnishing a good class of men and making the service popular throughout the country.

DISCHARGES.

The opportunity offered to obtain discharges by order or by purchase is thus far excellent in its effect. In this Department 222 were discharged at the end of three years, 117 purchased their discharge, and 21 were discharged by favor at end of ten years' service. The Department loses in number nearly double of last year, but discontent is sensibly relieved.

COURTS-MARTIAL.

Four hundred and sixty-seven cases have been tried by general court-martial (including 2 commissioned officers), 47 by garrison court-martial, and 3,995 by summary courts. The number of cases tried by summary court is greater than last year and the number tried by a garrison court is less. I have heard no complaints against the summary court and I believe it to be a beneficial provision.

INSPECTIONS.

The inspections in the Department have been thorough and complete. The assignment of an assistant to the Department inspector has facilitated the duties assigned to that office.

LEGISLATION.

Legislation looking to the establishment of the three-battalion organization in the infantry arm, the increase of two regiments of artillery, and the organization of all the light battalions into a separate regiment I earnestly recommend.

SANITARY CONDITION.

The various reports show a good sanitary condition at all the posts. Epidemic catarrh (influenza) caused the greatest number of cases of sickness.

On August 31, 1892, the Hamburg-American Packet Company's steamer *Moravia*, from Hamburg, arrived in New York Harbor, on which 23 deaths from cholera had occurred during the passage. The steamer is

detained at quarantine with a large number of others since arrived from infected ports with the scourge on board. The vessels are at anchor in the lower bay in the vicinity of Forts Hamilton and Wadsworth. The infected passengers and immigrants are being removed to the quarantine hospitals on Hoffman and Swinburne islands. The dead are being cremated.

The commanding officer at Fort Hamilton has protested against the proximity of the ships to the shore, and I forwarded his protest to the health officer of the port. All proper precaution is being taken by the proper officials, and I anticipate no danger. The medical director of the Department has sent to every post surgeon in the Department a circular letter explaining in detail all precautions necessary to be taken, and enjoining extraordinary care in matters of police, and giving full information and instructions in regard to the general management and prevention of cholera.

COAST DEFENSE.

The arguments for a more complete system of coast defense are the same as given in my last two annual reports. Considerable headway has already been made in my Department in introducing the system on this coast, particularly in the principal harbor; and the construction of proper armament is already well in progress.

It is evident that naval constructions which supplement the permanent land defenses have gone on even more rapidly than the latter. I strongly hope that the appropriation essential to carry out the recommendations of the Board of Fortifications will not be intermitted from year to year till the coasts of our country, which are so much exposed, will be put into a good state for effective defense against any foreign attack which an emergency might bring upon us.

With reference to the garrisons for our permanent works, it is wise for us to recall the necessity for something more than our small artillery force. What force we have must, of course, be thoroughly instructed in the use of our heavy guns, how to load, how to handle, and how to maneuver them, but we would be lame indeed if we did not also have some artillery reserve made up of intelligent men, fairly well instructed in all that pertains to these duties. The Navy Department is setting us a good example in this respect by its action in connection with what is called the naval reserve.

DISTURBANCES.

Since my last annual report local labor disturbances of a serious nature have occurred at three places within the limits of my Department. I watched them with more than ordinary solicitude, because, as was the case in the history of other strikes in the United States, regular troops might be called upon at any moment to take an active part. First, there was a disturbance caused by the strike of dissatisfied iron-workers in the rolling mills at Homestead, Pa.; second, a strike of some switchmen employed in the railroad yards at Buffalo, N. Y.; and third, an uprising of sundry miners and inhabitants of Coal Creek, Tenn., against the leasing out by the State of convict laborers to work the coal mines. In each of these three exhibitions of mob violence, soon after the first symptoms of trouble, the civil authorities acknowledged their inability to enforce the law, and the proper civil functionaries called

upon the militia or National Guard to assist in securing order and in preventing the destruction of property. At Homestead the striking workingmen attempted to maintain possession of the mills, and, as I understand, the sheriff not being able to peaceably secure the plant to its owners, they deemed it expedient to hire a body of men, denominating them "private watchmen," to guard against seizure and vandalism, and protect such new hands as they chose to employ. This action aggravated the striking workmen, and they successfully opposed the approach of the watchmen. Shots were exchanged and lives taken by both parties. The watchmen were eventually overpowered by the strikers and their sympathizers, disarmed, maltreated, and sent away. The sheriff renewed his efforts to gather a sufficient posse to cope with the difficulty; but an adequate number of citizens failing to respond, the governor of the State called out some of the State militia, *i. e.*, the National Guard, which immediately took possession of the mills and restored them to their owners. While these troops were still in possession the manager of the company was foully and murderously assaulted in his private office, and seriously wounded, by an Anarchist, who claimed to sympathize with the strikers. The military force at Homestead has been reduced, but still a small party has been retained there for some two months following the first outbreak. Later at Buffalo some switchmen, immediately after quitting their posts in the employment of the railroad company, attempted by riotous conduct to cripple the railroad by assaulting new men hired to take the places which they had abandoned, and also to injure or destroy property, and endanger human life by ditching trains and burning freight cars. The "extra force" brought out by the sheriff and police ignominiously surrendered to the mob, and claimed their inability to control the rioters. A judge of the court at Buffalo, empowered by State law, immediately called the organized National Guard of the neighborhood to assist him in preserving order, and his action was supplemented by the action of the governor of the State, who ordered out two brigades, about 7,000 men, of the National Guard, State of New York, which remained at Buffalo guarding the property until August 27, when, at the request of the sheriff, the troops were relieved and sent to their homes, the civil authorities then having the matter well under control.

The disturbances at Homestead and Buffalo, occurring as they did in the vicinity of large cities, and in thickly populated districts, it was, of course, only a question of time when the law-abiding citizens, largely in the majority, aided by the National Guard, could have matters well under control.

In Tennessee the question presented a more serious aspect. The country was sparsely settled, and the majority of the people living in the vicinity of the outbreak were sympathizers with the outlaws; also, the militia or National Guard organization of Tennessee was not so extensive as that of Pennsylvania and New York. The governor of Tennessee called out a small body of militia—a single company—and this small force, although plainly inadequate to face the large body of rioting miners, was left for a considerable period without reënforcements or support. Thus, in this wild country, the inhabitants being unsympathetic, the military organization was almost helpless, and it seemed imminent that here, if anywhere, the regular United States forces would necessarily be called.

The prompt assembling of these large bodies of the National Guard in the largest two States of the Union during the present season, their

transportation to the most distant parts of their respective States, and the admirable service, as we have seen, rendered in support of the civil authorities in repressing lawlessness and maintaining order show that the militia, under its new name of "National Guard," has reached a degree of excellence never before attained. This body of citizen soldiers is not only useful in maintaining order in the several States, but it will be of the highest value to the General Government in case of hostilities, in guarding important points, pending the formation of a volunteer army. It is certainly entitled to generous aid from the National Treasury. At present the Government contributes relatively a very much smaller sum than it did eighty or ninety years ago, when the militia was lacking in proper organization and discipline. The annual appropriation of $400,000 might well be increased to $1,000,000. But, whether this be done or not, I respectfully, but urgently, invite your attention to the propriety and necessity of providing at the next session of Congress for a rearmament of the entire National Guard at the same time the new infantry arm is furnished to the Army.

During the years 1886, 1887, 1888, 1889, 1890, and 1891, the number of rifles and carbines, caliber .45, manufactured by the Ordnance Department averaged 38,693 annually. Of this number an average of 7,927 was issued to the militia annually. And this fact, taken with the present limited appropriation for the militia, shows that it will be many years before the new rifles can be furnished. The result will be that during this period one portion will be armed with guns of .50 caliber, another with .45, and still another with the new caliber of .30 or .32. Should these troops be called out during this period, great confusion must result in attempting to supply them with ammunition. It is of the utmost importance that the National Guard should have the same arms and use the same ammunition as the regular Army, and I therefore strongly recommend that provision be made in the estimates of the War Department for purchasing or manufacturing the new arms and issuing them to the National Guard simultaneously with their issue to the Army.

In every case during the disturbances the National Guard responded with promptitude and bore themselves in a soldierly manner. The slightest evidence of traitorous conduct was summarily and decidedly punished, and deeds of cool bravery characterized the commander of the forces in Tennessee.

These instances demonstrate the excellent condition of the National Guard, its readiness for action, and its ability to cope with serious difficulties. That local outbreaks and lawlessness of such serious nature can be and are readily put down and adjusted by local civil authorities, supported by the local militia organizations, is surely a sign of healthful government, both parties being composed of men living under the same conditions and the law-abiding class maintaining control. To call in the regular United States forces to quell minor disturbances is sometimes open to criticism as outside interference and often causes bitterness of feeling against the common protector, the General Government. The regular United States force is always ready to step in when the interests of the Government plainly require them, and may well be looked upon as a proper reserve to be used at such places as necessity demands, when the State forces, civil and military, are unable to master the situation. I wish, if posssible, to enhance the commendations of the action of the various commanders of the National Guard of the several States in this Department for their excellent work and the success achieved.

I call attention to the detailed reports* of the several members of the permanent staff:

(1) The Adjutant-General, Col. Geo. D. Ruggles, A. A. G.
(2) The Inspector-General, Col. R. P. Hughes, I. G.
(3) The Judge Advocate, Lieut. Col. Thomas F. Barr, D. J. A. G.
(4) The Chief Quartermaster, Col. Chas. H. Tompkins, A. Q. M. G.
(5) The Chief Commissary of Subsistence, Col. John P. Hawkins, A. C. G. S.
(6) The Medical Director, Col. Charles Page, A. S. G.
(7) The Chief Paymaster, Col. Rodney Smith, A. P. M. G.
(8) The Inspector of Artillery, Acting Chief Ordnance Officer, and Chief Signal Officer, Maj. A. C. M. Penningten, Fourth Artillery.
(9) The Inspector of Small Arms Practice, Capt. H. P. Kingsbury, Sixth Cavalry.

To these and all the attached officers, and to the aides on my personal staff, Lieuts. Guy Howard, Charles G. Treat, and Godfrey H. Macdonald, I am indebted for diligent attention and efficient aid in conducting the affairs of the Department.

I am, very respectfully, your obedient servant,

OLIVER O. HOWARD,
Major-General, U. S. Army, Commanding.

The ADJUTANT-GENERAL U. S. ARMY,
Washington, D. C.

REPORT OF MAJ. GEN. MILES.

HEADQUARTERS DEPARTMENT OF THE MISSOURI,
Chicago, Ill., September 14, 1892.

SIR: I have the honor to submit the following report of affairs and operations in this department during the past year.

The following changes of stations of troops in the department have been made:

GAIN.

Troop I, Tenth Cavalry, arrived at Fort Leavenworth, Kans., from Fort Apache, Ariz., on May 14, 1892, in compliance with General Orders, No. 20, Adjutant-General's Office, series of 1892.

Company A, Fifth Infantry, arrived at Fort Leavenworth, Kans., October 17, 1891, from Fort Ringgold, Tex., in compliance with paragraph 8, Special Orders, No. 185, Adjutant-General's Office, series of 1891.

LOSS.

Troop I, First Cavalry, left Fort Leavenworth, Kans., April 21, 1892, en route to Fort Bayard, N. Mex., in compliance with General Orders, No. 20, Adjutant-General's Office, series of 1892.

Troop F, Seventh Cavalry, left Fort Sill, Okla., April 2, 1892, en route to Fort Myer, Va, in compliance with General Orders, No. 20, Adjutant-General's Office, series of 1892.

Under the provisions of General Orders, No. 28, Adjutant-General's

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*Omitted.

Office, series of 1891, the station of Company I, Seventh Infantry (Indian company), was changed from Fort Sill, Okla., to Fort Logan, Colo., January 27, 1892.

WITHIN THE DEPARTMENT.

Light Battery E, First Artillery, left Fort Riley, Kans., September 29, 1891, and arrived at Fort Sheridan, Ill., October 1, 1891, in compliance with instructions from Headquarters of the Army and paragraph 6, Special Orders, No. 97, headquarters Department of the Missouri, series of 1891.

Light Battery F, Second Artillery, left Fort Leavenworth, Kans., November 7, 1891, and arrived at Fort Riley, Kans., November 14, 1891, in compliance with telegraphic instructions from Headquarters of the Army of October 22, 1891, and letter from same source of October 30, 1891.

Company G, Tenth Infantry, left Camp Oklahoma, Okla., August 29, 1892, and arrived at Fort Reno, Okla., on same date, in compliance with General Orders, No. 13, headquarters Department of the Missouri, August 5, 1892.

Company G, Thirteenth Infantry, left Fort Reno, Okla, August 31, 1892, and arrived at Fort Sill, Okla., September 5, 1892, in compliance with General Orders, No. 13, headquarters Department of the Missouri, August 5, 1892.

The inspection reports from the different posts show that the troops are in a good state of discipline and efficiency and are properly drilled and instructed.

A tabulated statement of the work done by post lyceums in the department, established in compliance with General Orders, No. 80, Adjutant-General's Office, series of 1891, accompanies this report, which shows that one hundred and thirty-five essays on professional topics were read by officers during the year, followed in many cases by discussion of the subject treated. These essays and the reports of the discussions thereon contain much valuable and interesting information concerning military matters. The work already done clearly demonstrates that these lyceums will be of much value in stimulating professional zeal and ambition.

No Indian disturbances have occurred sufficiently serious to call for the intervention of troops.

The troops in the Indian Territory have been occupied during a considerable part of the year in removing intruders and cattle from the public lands, and in preserving order and protecting town sites during the settlement of the Cheyenne and Arapaho Reservation.

In conformity with the proclamation of the President these lands were thrown open to settlement at noon on the 19th of April, 1892, the Indians having rights thereon having previously selected and been assigned to allotments of land on said reservation. Large numbers of people seeking homes assembled at the boundary line days before the date fixed, and apprehensions were published in the press that serious violence and disturbance of the peace would accompany the opening of this tract in the absence of organized civil government. The Secretary of War, upon request of the Department of the Interior, directed that troops be sent to prevent the occupation of the land opened for settlement before the date assigned, protect the Indian allotments from encroachment, and assist in the enforcement of the rules laid down by the officials of the Land Bureau for the settlement of this tract. These duties were successfully performed, the lands were taken up on the

date fixed by the President with little disturbance, and no one was deprived by evasion or violence of an equal opportunity with others to secure a home. Thus a movement which it was feared would be attended by scenes of disorder and outrage was executed peacefully and the rights of all protected. Special credit is due for this result to the careful precautions and skillful management of Col. James F. Wade, Fifth Cavalry, to whose discretion the duties connected with the opening were intrusted, and to the vigilance and good conduct of the troops under his command.

On May 3, 1892, the commanding officer of Fort Reno reported the existence of serious dissatisfaction among the Cheyenne and Arapaho Indians, owing to the deduction for so-called attorney's fees of $67,500 from the moneys due those Indians in payment for that part of their reservation opened to settlement. With a view of learning what grounds, if any, existed for this discontent and of allaying it, if possible, I directed an investigation to be made by Capt. J. M. Lee, Ninth Infantry, assistant to the inspector general of the department. Capt. Lee's thorough and complete report of this investigation was forwarded to the Adjutant-General of the Army on June 27. That report, together with his annual report, herewith forwarded, gives a complete history of that transaction.

I would earnestly renew the recommendation contained in my last annual report, that advantage be taken of the World's Columbian Exposition "to mobilize or assemble what is known as the National Guard or State militia" in connection with a considerable portion of the regular Army. Very few of our younger officers have ever participated in or even witnessed the movements of large bodies of troops, and the benefits to be derived from the proposed mobilization are so obvious that I will not enlarge upon them.

A convention of officers of the National Guard assembled in Chicago, October 27, 1891, at which the subject of an encampment of the National Guard to be held in Chicago in the summer of 1893 was carefully and fully considered. The National Guard of the District of Columbia and of thirty-three States and Territories was represented in this convention. It was unanimously resolved by this convention that an encampment of the National Guard of the United States be held in Chicago during the summer of 1893. From the 5th to the 20th of August was fixed as the time for holding the encampment. An examination of the meteorological record kept by the post surgeon at Fort Sheridan shows that the selection of this date was judicious. During the month of May, 1892, there were seventeen rainy days, with a rainfall of 6.51 inches. During June, twenty-one rainy days, with a rainfall of 10.91 inches, and during July ten rainy days, with a fall of 2.54 inches. No outdoor drill was practicable during May or June, and very little in July. In August there were only four rainy days, and the ground was suitable for drill.

I quote the following from my annual report of last year:

As the General Government makes yearly appropriations for the equipment of the militia, I see no reason why it should not provide transportation for assembling it in the encampment above proposed. The reasonable reduction of rates usual in other countries for such movements of troops, and frequently given in this country, would reduce the aggregate cost, say, for 90,000 State troops and 10,000 Federal troops, to $850,000, approximately. For that purpose, I would respectfully recommend that Congress be asked to make the necessary appropriation to provide transportation for the troops from their various State capitals to the national encampment at or near the World's Columbian Exposition, Chicago, Ill., and return, and provide authority for the movement of such State organizations; the same to be designated and directed by the governors of the various States interested.

The above recommendation for $850,000 was for transportation only, and was based upon the lowest excursion rates for travel.

In view of the great importance of the proposed encampment, and its national character, I would recommend that Congress be asked to appropriate $1,500,000, to be used under direction of the Secretary of War for transportation, camp expenses, field equipments, and other general and necessary expenses connected with the encampment.

A detachment of 8 soldiers, under command of First Lieut. W. T. May, and afterwards of Second Lieut. Henry J. Hunt, Fifteenth Infantry, has during the year made several successful practice marches upon bicycles, carrying the ordinary equipments and arms of the infantry soldier.

On the 18th day of May, 1892, a dispatch carried by relays of bicycle carriers posted by the American Wheelmen's Association left these headquarters for the headquarters Department of the East in the New York Harbor.

In spite of extremely bad roads and constant rains, the distance, 975 miles, was made in 4 days and 13 hours.

This experiment was the first one of its kind, and the results obtained, under the most adverse and discouraging conditions, prove conclusively that the bicycle will in future prove to be a most valuable auxiliary to military operations, not only for courier service but also for moving organized bodies of men rapidly over the country.

I also renew the recommendations contained in my annual report of 1889, under the heads of "Recommendations," and "Promotion of subordinate officers."

Accompanying this report are the reports of the staff officers at these headquarters.

Very respectfully, your obedient servant,

NELSON A. MILES,
Major-General, Commanding.

The ADJUTANT-GENERAL, U. S. ARMY,
Washington, D. C.

REPORT OF BRIG. GEN. RUGER.

HEADQUARTERS DEPARTMENT OF CALIFORNIA,
San Francisco, Cal., September 8, 1892.

SIR: I have the honor to submit report of affairs in the department of California during the year past as follows:

The conditions prevailing in the department since the last annual report was submitted have been such that no active operations proper have been required.

Pursuant to instructions of January 14, 1891, from the Headquarters of the Army and orders given thereunder from the headquarters division of the Pacific, Troop C, Fourth Cavalry, arrived for station on October 14, 1891, at Fort Bidwell, Cal., from Fort Wallawalla, Wash.

In accordance with directions of January 11, 1892, from the Headquarters of the Army, made pursuant to the direction of the Secretary of War, dated January 9, 1892, based upon the request of the Secretary of the Interior, Company B, First Infantry, from Angel Island, California, and a detachment of the Fourth Cavalry from the Presidio of San Francisco under First Lieut. Harry C. Benson, Fourth Cavalry, pro-

ceeded on March 8, last Capt. William E. Dougherty, First Infantry, commanding, to the Round Valley Indian Reservation to assist, if found necessary, the United States Indian agent in removing intruders from the reservation. This duty was performed effectively and with good judgment, the command returning to their stations on the 30th of April.

In conformity to instructions in General Orders, No. 14, Headquarters of the Army, the post of Fort Gaston, Cal., was discontinued on June 29 last, the garrison, Company F, First Infantry, was withdrawn and the military reservation wholly transferred on that date to the Interior Department. The company was assigned to the post of Benicia Barracks, Cal., arriving there on June 30.

Pursuant to the directions of June 2 last, from the Headquarters of the Army, batteries A and C, Fifth Artillery, left Alcatraz Island and the Presidio of San Francisco, Cal., on June 18 last, for Fort Canby, Wash., department of the Columbia, and batteries E and L, Fifth Artillery, arrived from Fort Canby at Alcatraz Island and the Presidio of San Francisco, respectively, for station on June 23 last.

In compliance with instructions of February 24 last, from the Major-General Commanding the Army, Troop I, Fourth Cavalry, Capt. Abram E. Wood, and Troop K, Fourth Cavalry, Capt. Joseph H. Dorst, left the Presidio of San Francisco on May 4 last, for the National Yosemite and Sequoia Parks, respectively, and have since performed the duty, under the instructions of the Secretary of the Interior, of protecting those parks from trespass. These troops are still engaged on such duty.

At the request of the authorities of the State of California, the First Infantry, Col. William R. Shafter commanding, was placed in a Camp of Instruction at Santa Cruz, Cal., on August 7 last, in conjunction with a division of the National Guard of California. The regiment remained in camp until the 27th of that month. This duty of the regiment was performed with beneficial results to all concerned.

Good progress in general instruction has been made at all posts in the Department during the past year. This is due in considerable part to the institution of more comprehensive and systematic methods under the provisions of General Orders, No. 80, Headquarters of the Army, 1891, and of General Orders, No. 29, Headquarters of the Army, of the present year, than formerly obtained, relative to theoretical and practical instruction at posts.

The lyceums established at the various posts in accordance with the General Orders No. 80 have had good effect, and as improvements in method will come with experience in their management, the final results of their operation must be very beneficial. There has, I think, within the past few years been an increase in the proportion of young officers who take an interest in professional studies of the higher order, and the workings of the post lyceums properly directed will have the effect to encourage officers inclined to study and to increase the numbers

A statement of the work done in the lyceums at the various posts for the past year accompanies this report, to which attention is requested. I have no special recommendations to offer at this time relative to post lyceums.

I regret to state that for the year ending July 1 of the present year, there was an increase in the percentage of desertions as compared with the previous year, although the per cent is not as great as for the two prior years. I am unable to offer a satisfactory reason for this increase. All the conditions of service in what relates to the well-being

of the soldier have been equally as good during the past year as in that immediately preceding, and in some respects better.

The reports required by General Orders, No. 29, Adjutant-General's Office, 1892, to be submitted at the close of the course in practical instruction and having reference in part to modifications that may be deemed advisable in the Drill Regulations, will be forwarded at the close of the season.

For particulars of administration in the several staff departments and recommendations by their chiefs on duty at department headquarters, attention is requested to reports* transmitted herewith, as follows:

Col. Oliver D. Greene, assistant adjutant-general.

Col. Joseph R. Smith, medical director.

Col. John P. Hawkins, chief commissary of subsistence.

Lieut. Col. John G. Chandler, chief quartermaster.

Lieut. Col. George H. Burton, inspector-general.

Lieut. Col. Edward Moale, Third Infantry, inspector of small-arms practice.

Maj. Charles I. Wilson, chief paymaster.

Maj. John I. Rodgers, First Artillery, inspector of artillery.

Maj. Edward Hunter, judge-advocate.

First Lieut. Charles H. Bonesteel, Twenty-first Infantry, acting chief signal officer.

Second Lieut. Charles G. Lyman, Second Cavalry, aide-de-camp, in charge of engineer office.

I am, sir, very respectfully, your obedient servant,

THOS. H. RUGER,
Brigadier-General, Commanding.

The ADJUTANT-GENERAL, U. S. ARMY,
Washington, D. C.

REPORT OF BRIG. GEN. RUGER.

HEADQUARTERS DEPARTMENT OF THE COLUMBIA,
Vancouver Barracks, Wash., September 5, 1892.

SIR: I have the honor to submit report of operations and affairs in the Department of the Columbia since September 10, 1891, as follows:

Troop C, Fourth Cavalry, in accordance with instructions of January 14, 1891, from the headquarters of the Army, and directions issued thereunder from headquarters Division of the Pacific, was relieved from duty in this department and proceeded from Fort Wallawalla, Wash., on September 23, 1891, to Fort Bidwell, Cal.

Batteries E and L, Fifth Artillery, were relieved from duty at Fort Canby, Wash., and in this department on June 19 last, pursuant to directions of June 2 last from the headquarters of the Army, and proceeded to Alcatraz Island and the Presidio of San Francisco, Cal., and Batteries A and C, Fifth Artillery, joined at Fort Canby from Alcatraz Island and the Presidio of San Francisco, respectively.

In consequence of a state of insurrection existing in the Cœur d'Alene mining region, in Shoshone County, in the northern part of the State of Idaho, and upon appeal made by the governor for assistance, the President directed, as communicated in a telegram of July 12 last from the Major-General Commanding the Army, that the available in-

* Omitted.

fantry force from Fort Sherman, Idaho, be sent without delay under command of an officer of rank and discretion to the scene of disturbance, with direction to the commanding officer to report to the governor of the State and assist the civil authorities in preserving the peace and preventing the destruction of life and property; that, if necessary, I should increase the force by troops from the nearest garrison. The telegram also stated in substance that three companies of infantry would be ordered from Fort Missoula, Department of Dakota, to report to the commanding officer sent from Fort Sherman and that, if needed and more convenient for dispatch, additional troops would be furnished from the Department of Dakota.

Pursuant to these instructions, received by me on the date of issue, I directed by telegraph Col. William P. Carlin, Fourth Infantry, commanding Fort Sherman, to move without delay with his available command to Wardner, Idaho, for execution of the instructions received and communicated to him. He left with four companies, A, D, F, and H, of the Fourth Infantry, accompanied by Maj. George M. Randall, Fourth Infantry, in the afternoon of that day—July 12 last.

Upon request received from Col. Carlin, with his reply acknowledging receipt of his orders, that the troops at Fort Spokane, Wash., be also ordered, and a force, in addition, from elsewhere, I directed by telegraph, on the same day, the commanding officer of Fort Spokane to proceed with his available force and report to Col. Carlin at Wardner, Idaho, and that five companies of the Fourteenth Infantry be dispatched for like duty from Vancouver Barracks, Wash., under command of the lieutenant-colonel of the régiment. The troops from Fort Spokane, Companies B, E, and G, Fourth Infantry, Lieut. Col. Henry C. Cook, Fourth Infantry, commanding, and from Vancouver Barracks, Companies B, C, D, E, and F, Fourteenth Infantry, Lieut. Col. Hugh A. Theaker, Fourteenth Infantry, commanding, left their stations on the morning of July 13 upon the orders received the previous evening.

In consequence of representations made by the governor of Idaho as to the number of rioters and the force necessary, and the facts reported by Col. Carlin as far as then ascertainable, from which it appeared that the rioters, numbering several hundred, were armed and in some state of organization and that loss of life and much destruction of property had already resulted from their outbreak, it seemed advisable, to assure as soon as practicable a force at hand ample to quickly restore order should forcible action by the troops be found necessary, to ask that an additional battalion of infantry be sent from the Department of Dakota, some posts of which, Fort Keogh in particular, were the most convenient in point of time, and I telegraphed on the morning of July 13 to the commanding general, Department of Dakota, citing the statement by the Major-General Commanding the Army in his telegram of the day before to me that troops would, if necessary, be ordered from that department, and requested that two hundred infantry under command of a field officer be ordered from Fort Keogh, or other post, to report to Col. Carlin at Wardner, Idaho, and also for assurance, in case the commanding general of that department might not feel authorized to take full action upon my request, I reported the facts to the Major-General Commanding the Army, with request that instructions be given for the movement. The troops (Companies B, D, F, G, and H, Twenty-second Infantry) under command of Lieut. Col. John H. Page, Twenty-second Infantry, left Fort Keogh by rail that evening.

The immediate occasion requiring that assistance be rendered by the United States troops was an attack, by force of arms, begun on the 11th of July last, by members of an organization known as the Miners' Union,

on men employed in certain of the mines in the region who were not members of the union, with the result that a number of men were killed, the nonunion men driven from the vicinity of the mines, and property destroyed. The people living in the vicinity and not miners were more or less involved or concerned through encouragement and aid given to the rioters, or who had incurred the enmity of the latter; there were also some persons taking active part with the rioters who did not live in that part of the country, but apparently had come to take part in the disturbances. The general disorder was such that the local authorities had not, if disposed to do so, power to protect life and property or arrest the guilty.

The Cœur d'Alene mining region in northern Idaho, the scene of the disturbance, embraces the valley and country adjacent north and south of the Cœur d'Alene River from the main Cœur d'Alene range on the east to the west for about 30 miles. The river runs west in general course. The mines are at various points both north and south of the river. The region is one of rough mountains. A map accompanies, on which are indicated the principal points and the locations of the mines in the country about.

Col. Carlin, with the battalion from Fort Sherman and a force nearly 200 strong of the Idaho national guard, which had joined him en route, arrived at Wardner on the morning of the 14th of July, the Vancouver Barracks battalion at noon of that day, and the Fort Spokane and the Fort Missoula battalions in the evening. The latter battalion, Companies F, G, and H, Twenty-fifth Infantry, Capt. Washington I. Sanborn commanding, arrived at Mullan, by the railroad direct from Missoula, on the evening of the 12th, but in consequence of the destruction of bridges east of that point by the rioters and to avoid delay and possible difficulty otherwise for so small a force proceeding by the way through points at which rioters were collected between Mullan and Wardner, to the west, Col. Carlin directed that the battalion join him by the northern rail route from Missoula, via Cœur d'Alene City. The Fort Keogh battalion arrived at Mullan on the 15th, at which point it was stopped, subsequently being directed to Wallace and points in the vicinity.

On the approach of the troops to Wardner the rioters in part dispersed to the mines in the region and others collected at the stations—Wardner, Wallace, and other points—on the railroad. They appeared without arms, which had been secreted or disposed of for the time being. The troops were distributed to the mines or placed at such other points by Col. Carlin as best to control the region of disturbance. The State troops of Idaho present acted in conjunction with the United States troops and in accordance with the directions of Col. Carlin.

Such protection and assistance as necessary was rendered by the troops to the civil officers in making arrests of those charged with participation in criminal acts during the riots. The duty performed by the troops has since consisted in assistance of the civil authorities in guarding prisoners held in custody and preventing rescue of the same, including, also, in accordance with instructions received, those held by the United States marshal under process of the United States court for violation, by force of arms, of the decrees and orders of the court.

In accordance with the instructions of the Major-General Commanding the Army, in effect that the troops be returned to their stations as soon as their services might be dispensed with, preferably first those belonging in the Department of Dakota, and the state of affairs so admitting, the battalions belonging at Forts Keogh and Missoula were *ordered to* their proper stations on July 25.

It has not been practicable to this date to further reduce the force under Col. Carlin's command, owing especially to the inconvenience that would result to a smaller force in giving effective assistance to the civil officers in guarding the prisoners held at several different points awaiting disposition of their cases by the courts, but it is expected, from information recently received, that such action will soon be had as will permit a reduction of the force and the withdrawal of that remaining not long after.

It is observable from the narrative of movements given herein, that most commendable promptness obtained at all of the posts from which troops departed for the scene of trouble.

It fortunately occurred that the appearance of the troops extinguished open lawlessness in the whole Cœur d'Alene mining region and no loss of life became necessary in the execution of the duties devolving upon the troops. These good results are undoubtedly attributable in considerable degree to the excellent judgment and firmness combined in the conduct of affairs by Col. Carlin, very judicious action by the commanding officers in execution of specific duties at the different points occupied by the troops, and commendably good conduct by the soldiers of the command. For a more particular recital of details and presentation of facts, attention is requested to the report of Col. William P. Carlin, Fourth Infantry, which accompanies this, marked A.

The general condition in the department for the past year relative to instruction, discipline, and also what concerns the well-being of the troops at the different posts, has been satisfactory. Decidedly better progress has been made than in former years in the professional instruction of officers, owing in great part to the better and more systematic methods recently put in force for the Army at large.

The results accomplished in the lyceums at the different posts in the command are embraced in a statement attached, marked B,* to which attention is requested. The reports from the various posts show that much interest is taken in the study of professional subjects and give promise of very beneficial results from the lyceum in the future.

There has been a decided decrease in the percentage of desertions during the past year.

For particulars relative to the conduct of affairs in the general staff departments and recommendations by the chiefs of the same at these headquarters as to particular matters, attention is requested to the reports* transmitted herewith, as follows:

Maj. Thomas Ward, assistant adjutant-general.

Lieut. Col. Charles C. Byrne, medical director.

Lieut. Col. Augustus G. Robinson, chief quartermaster.

Maj. Frank M. Coxe, chief paymaster.

Maj. John M. Hamilton First Cavalry, acting inspector-general.

Maj. Tully McCrea, Fifth Artillery, acting engineer officer and in charge as inspector of small-arms practice.

Maj. William H. Nash, chief commissary of subsistence.

Capt. Charles H. Clark, chief of ordnance, and of

Capt. Charles McClure, acting judge advocate.

I am sir, very respectfully, your obedient servant,

THOS. H. RUGER,
Brigadier-General, Commanding.

The ADJUTANT-GENERAL, U. S. ARMY,
Washington, D. C.

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* Omitted.

A.

HEADQUARTERS U. S. TROOPS IN THE FIELD,
Wardner, Idaho, July 26, 1892.

The ASSISTANT ADJUTANT GENERAL,
Headquarters Department of the Columbia, Vancouver Barracks, Wash.:

SIR: I have the honor to submit the following report on the operation of the troops under my command while engaged in suppressing the riots or insurrection in the Cœur d'Alene mining district of this State, viz:

On the morning of July 12, I was notified by telegrams from Col. J. F. Curtis, inspector-general Idaho National Guard, then at Wallace; W. B. Heyburn, attorney for the mine-owners at Wardner, then at Spokane; Governor N. B. Willey, at Boise, of the outbreak of the rioters or insurgents and about 2 o'clock p. m. I received a dispatch from Maj. Gen. Schofield, commanding the Army, saying that orders had been sent to headquarters of the department directing me to move troops to the scene of the disturbance, and that on receipt of such orders I would move accordingly.

It was after 3 o'clock p. m. when the orders from the department commander, Brig. Gen. Ruger, were received. But preparations for the movement had been in progress nearly all day.

At 4:30 I marched the four companies of the Fourth Infantry at Fort Sherman, (H, D, F, and A), to Cœur d'Alene City and embarked on the steamboat as soon as it was ready, namely about 5:30 p. m. The boat took us to Harrison near the head of the lake in two hours. There we found a train of the Union Pacific Railroad awaiting to take us toward Wardner, the first point at which the rioters were reported to be in great force and where the principal mines were located. There being no adequate facilities at this point, Harrison, for landing wagons, animals, and supplies, it was late in the night before this was accomplished. And here I found Col. J. F. Curtis, inspector-general of the Idaho National Guard and representative of the governor of the State, with whom Governor Willey had requested me to advise and coöperate. He informed me that he had that day passed through the camp of the rioters near Wardner, under flag of truce, and estimated their numbers at 500, all armed with Winchester rifles. He asked me how many men I had. On being told in reply that I had 168 he said that was not enough; that he had 300 Idaho State troops en route, and advised me to remain at Harrison till his troops could join me.

Col. Curtis was confident after personal observation that the rioters were fully prepared to fight the troops and would do so. I therefore decided to remain at Harrison till early next morning and then move up the railroad toward Wardner to Cataldo, 27 miles from Harrison and 12 from Wardner, which I did, arriving there about 9 o'clock. The Idaho troops arrived at 12 m. at Cataldo, but only 192 strong instead of 300.

At that time I had received the following communication from the manager of the Bunker Hill mine and mill, forwarded by N. J. O'Brien, superintendent Union Pacific Railroad, namely:

"WARDNER, IDAHO, *July 13, 1892.*

"N. J. O'BRIEN:

"Will you use every effort to delay any troops coming to Wardner? It is of utmost importance to give opportunity for all our men to leave; trains to-day.

"V. M. CLEMENT."

Also the following from the sheriff of the county:

"WARDNER, 13.

"COMMANDER OF TROOPS,
"*Cataldo:*

"Hold troops at Cataldo subject to my orders.

"R. A. CUNNINGHAM,
"*Sheriff, Shoshone, Idaho.*"

Having previously been informed that Sheriff Cunningham was under the absolute control of the miners' union and of the men engaged in the riots, I gave no attention to his communication; but I did place implicit faith in the representations and the appeal of Mr. Clement, and believed that my advance to Wardner before the nonunion men had left the mill and mine would cause the rioters as an act of desperation and vengeance to blow up the Bunker Hill mill and massacre the prisoners they had taken from that mine and mill. I was also assured by Mr. Dryden, deputy United States marshal, that he was informed by a friend of his in the miners' union that the bridges between Cataldo and the Bunker Hill mill had been charged with dynamite for the purpose of blowing up the bridges and trains of troops. For these reasons, chiefly the appeal of Mr. Clement, through Superintendent O'Brien of the Union Pacific Railroad, I decided to remain at Cataldo till the morning of the 14th instant.

Early on the 14th, I moved forward, having the train stopped at every bridge, and that carefully inspected for dynamite before crossing it. We arrived at the mill just alongside of the railroad at 9 a. m., and at the depot of Wardner at 9.20. All was then quiet, except that several hundred idlers, most of whom had been engaged in the riots, were lounging around the depot to see what the troops were going to do.

The rioters from Wallace, Mullan, and Montana had left Wardner on the night of the 13th, after the nonunion miners had been sent away, and after they had removed the giant powder from the mill. They had placed a ton and a half of this explosive in the mill before demanding of Mr. Clement that all his nonunion men should be sent out of the country, and announced that the mill would be blown up if he refused compliance. He yielded of course to save the property of his employers and the lives of his employés.

A few minutes after arriving at Wardner I received dispatches from the mayor of Wallace that good citizens were being driven or ordered out of town by the rioters and calling for protection.

I immediately sent forward Capt. John W. Bubb's company, Fourth Infantry, and two companies of Idaho State troops to Wallace. Capt. Bubb at once took possession of the town and restored order and confidence on the part of the good people.

At 12 m. a battalion of the Fourteenth Infantry, under command of Lieut. Col. H. A. Theaker, arrived and was at once ordered to Osborn, 6 miles farther east on the railroad and river. Later it was ordered to Wallace, and Capt. Bubb's command was ordered to Gem mine and Burke, 3½ and 7 miles respectively from Wallace, up a cañon, where the main body of union miners were employed, and where the first outbreak occurred which resulted in the destruction by dynamite of the Frisco mill and the death of many nonunion miners who were killed by the explosion on the 11th instant.

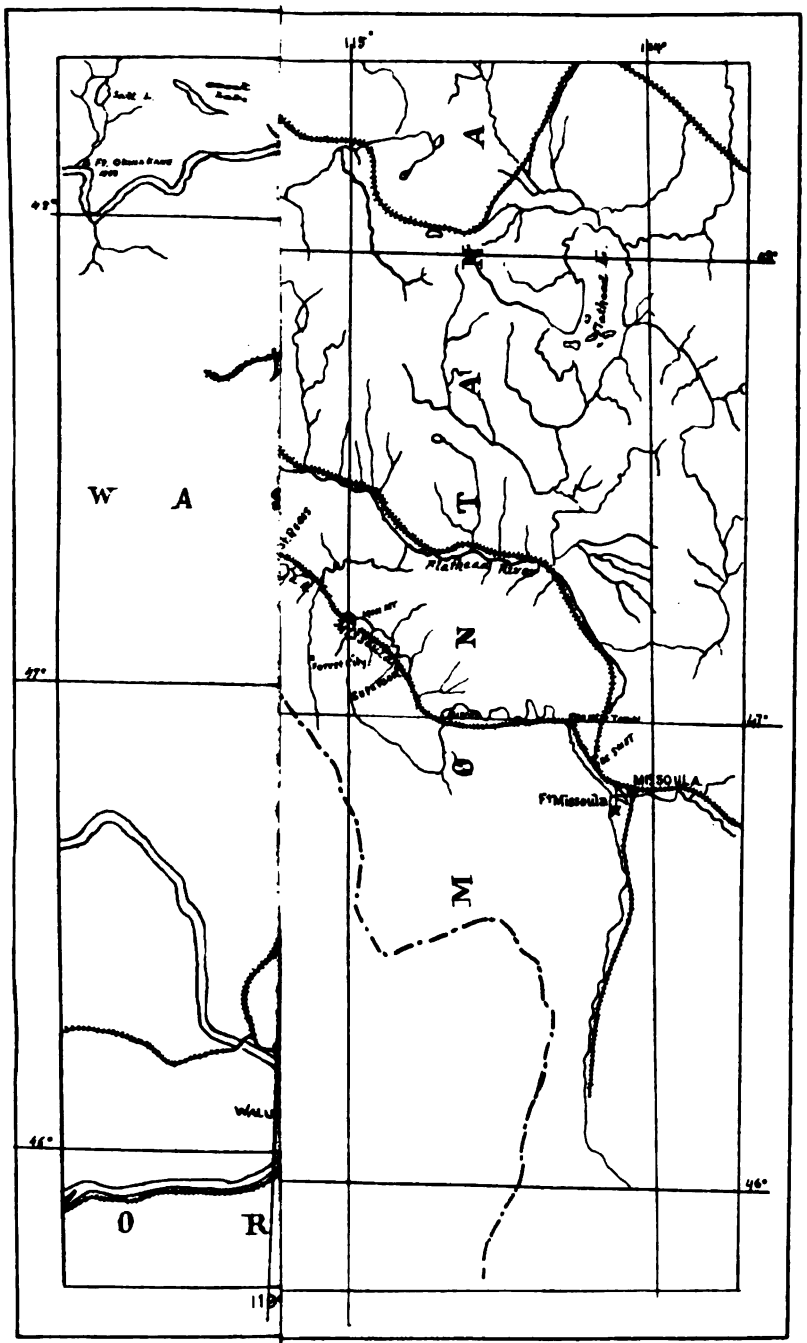
In this connection it is proper to state that the nonunion men who surrendered to the miners' union at the Frisco mill were sent out of the country by railroad to the Old Mission on the Cœur d'Alene River, where on the 12th instant they were waiting the arrival of the steamboat to take them to Cœur d'Alene City.

This boat was delayed by having to take my command from Fort Sherman to Harrison, and did not arrive at the Mission till about 12 o'clock at night, too late to remove the unfortunate nonunion miners. The rioters at Wardner had been informed during the day that these men were still at the Mission, and that some of them had talked of going back to their work with the troops, whereupon an armed party had gone down to Mission on a hand car, and had been joined by others at and near the Mission, where about sundown on the 12th these armed rioters fell on the nonunion men and fired on them, wounding some, and it is believed killing some, the number of whom we have been unable to discover. The main body were frightened and ran across the meadows from the Mission and into the woods along the river. The armed rioters pursued and kept up the firing, until all had been driven into Fourth of July Canyon or into the swamps and sloughs and dense thickets near the river. Some saved their lives by plunging into the river and swimming across, and hiding in the brush and swamps until morning, and then made their way as best they could along the river bank till they could find a boat tied up to the banks, or till the steamer came along and picked them up.

The party of rioters did not return to the Mission till 11 o'clock at night. I believe that a considerable number of the nonunion miners were killed and that their bodies were thrown into the river or swamps or destroyed by fire. I directed a thorough examination of the region where the barbarous proceedings occurred by a detachment from Fort Sherman, and also by Company B, Fourth Infantry, under command of Lieut. McQuiston. Many men accused of participating in this affair have been arrested, but no dead bodies have yet been found.

To return to the movements of other troops of my command: On the 12th instant, at Fort Sherman, I received a telegram from Capt. W. I. Sanborn, Twenty-fifth Infantry, informing me that he was ordered to join me with three companies of his regiment from Fort Missoula. He was instructed, in reply, to proceed to Mullan and take post there till further orders. When I had learned from Col. Curtis and other sources that the rioters were in great force, well armed and resolved to fight the troops, I became uneasy lest Capt. Sanborn's battalion might be attacked by superior forces of the rioters and be badly cut up or driven back. Believing it of the utmost importance that the United States troops should not meet with defeat or even a check, I deemed it best to order Capt. Sanborn to return to Missoula and come around by Cœur d'Alene City and join me at Wardner. This is the explanation of what seemed a retrograde movement, or at best an inexplicable one. As it was, one bridge and the railroad at another point were blown up by the rioters in advance of Capt. Sanborn, that is, between Mullan and Wallace. Capt. Sanborn's battalion joined me at Wardner on the 14th at 7:30 p. m.

A battalion of three companies of the Fourth Infantry from Fort Spokane, under command of Lieut. Col. H. C. Cook, Fourth Infantry, joined me at the same time and place.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A battalion of 225 men and officers of the Twenty-second Infantry from Fort Keogh, Mont., under command of Lieut. Col. J. H. Page, Twenty-second Infantry, arrived at Mullan on the 15th instant, under instructions sent by telegraph, and remained there. Subsequently, when arrests were being made in great numbers at Burke, Gem, and Wallace, the battalion of the Twenty-second was transferred to Wallace.

On the 15th instant 65 of the miners' union rioters were arrested at this place (Wardner) and placed under guard at my camp. These persons were arrested by deputy United States marshals, deputy sheriffs, or upon their information and that of law-abiding citizens.

Arrests at Wallace commenced at the same time; also, at Burke and Gem. In all, over 300 arrests of rioters were made. Those arrested at Burke, Gem, and Mullan were sent to Wallace to be guarded.

On the 19th instant, acting in accordance with information from Col. J. F. Curtis, Idaho National Guard, I proceeded to Lookout, the summit of the Bitter Root Range, with about three companies to arrest a party of armed rioters numbering about 90, said to be encamped or lurking in the mountains near that point in Montana. The man who had been directed by the superintendent of the Northern Pacific Railroad, at Missoula, as guide, and who reported the presence of this party at that point, disappeared from the command, and, if the men were in that locality, they could not be found.

At Lookout Col. Curtis and I telegraphed to the governor of Montana for permission to pursue the rioters across the line. Without waiting for a reply we went on to the designated point, but found no one as stated above. The next day a reply from Governor Toole, refusing the permission asked, was received. The troops were returned to Wallace and Wardner.

As the riot or insurrection seemed now completely suppressed, and nearly all the active participants had been arrested or escaped from the State, and the civil authorities appointed by the governor after his proclamation of martial law, and the United States marshal of the State were able to make all further arrests they deemed necessary, there remained nothing more for the troops to do except to guard prisoners. I therefore recommended, on the 23d instant, that the force be reduced and that all United States troops except three companies be sent to their proper stations.

Under instructions from Brig. Gen. Ruger, commanding the Department of the Columbia, the battalion of the Twenty-fifth Infantry from Fort Missoula and that the Twenty-second Infantry from Fort Keogh were relieved from further duty with my command, and started yesterday afternoon to their respective stations.

It is a fact perhaps worthy of the attention of the authorities at Washington to state that a majority of the persons arrested for participation in the recent riots in this region are foreign-born, chiefly from Ireland, Canada, and Germany, and a considerable number are unnaturalized.

I take great pleasure in reporting, for the information of superior authority, that the conduct of the troops under my command has been in the highest degree honorable to them and creditable to the Army. Not an instance of criminal or improper conduct toward citizens or each other has been committed. It would be impossible to find any body of men in any class of society who could have conducted themselves with more propriety than the soldiers of this large command have done in this region during and since the riots. These remarks apply equally to all officers and men of the Fourth, Fourteenth, Twenty-second, and Twenty-fifth Regiments of Infantry, as well as to the troops of the Idaho National Guard. While no fighting was required, the spirit displayed by all these troops showed plainly they were fully equal to any emergency, and would have defended the honor of the flag in a contest with insurgents and rioters with as much courage as if they had been a foreign foe.

Very respectfully, your obedient servant,

WILLIAM P. CARLIN,
Colonel Fourth Infantry, Commanding.

WARDNER, IDAHO, *August 15, 1892.*

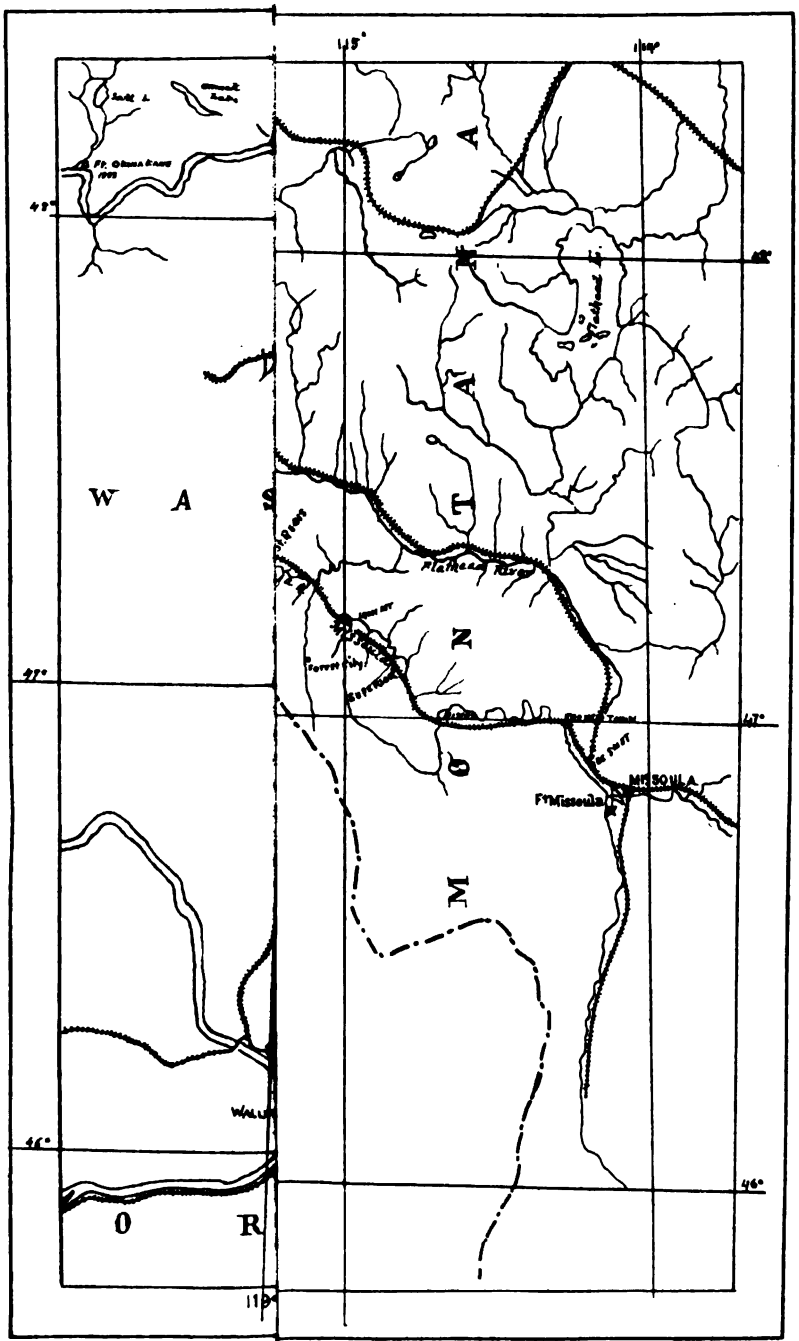
ASSISTANT ADJUTANT-GENERAL,
Headquarters Department of the Columbia, Vancouver Barracks, Wash.:

SIR: The preceding report was forwarded from these headquarters July 30 ultimo. It is again submitted, in compliance with letter from headquarters Department of the Columbia of the 11th instant.

Since July 30 the following movements of troops have occurred: Companies E and H, Fourth Infantry, August 10, Wardner to Wallace, escorting 48 prisoners to latter place, the companies reporting to Lieut. Col. Theaker, commanding at Wallace, for duty at that place.

Very respectfully, your obedient servant,

WILLIAM P. CARLIN,
Colonel Fourth Infantry, Commanding.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REPORT OF BRIG. GEN. MERRITT.

HEADQUARTERS DEPARTMENT OF DAKOTA,
St. Paul, Minn., September 1, 1892.

SIR: I have the honor to submit a report of military affairs in the Department of Dakota from August 1, 1891, to July 31, 1892, inclusive. The following is a record of events for the year:

August 15, 1891.—Headquarters and Companies A, B, C, D, E, F, G, and H, Third Infantry, Col. E. C. Mason commanding, returned by rail to Fort Snelling, Minn., from encampment with the Wisconsin National Guard at Camp Douglas, Wis. Distance traveled, 190 miles.

August 17, 1891.—Headquarters and troops G, K, and L, First Cavalry, Company D, Twenty-Fifth Infantry, with detachment of Medical Department, Col. A. K. Arnold, First Cavalry, commanding, left Fort Custer, Mont., for practice in field exercises. The command marched to vicinity of old Fort C. F. Smith and returned by way of the Little Big Horn River to post. Arrived August 31. Distance marched, 142 miles.

August 21, 1891.—Troops F and G, Eighth Cavalry, and Company H, Twelfth Infantry, Lieut. Col. William F. Drum, Twelfth Infantry, commanding, left Fort Yates, N. Dak., for a practice march and field exercises, and proceeded by way of Porcupine Creek to the Cannon Ball River, and up this river to its south fork, where the command encamped August 31. Distance marched, 75¼ miles.

August —, 1891.—During the month the Cheyenne River Indian Agency was moved to a point about 50 miles north of Fort Bennett and opposite Forest City, S. Dak.

September 3, 1891.—Headquarters and Companies F, G, and H, Twenty-Fifth Infantry, Maj. Evan Miles commanding, left Fort Missoula, Mont., for practice marching and field exercises, and proceeded to the Flathead Indian Agency, Mont., and encamped there four days. Returned to post September 12. Distance marched, about 58 miles.

September 6, 1891.—Company A, Twelfth Infantry, First Lieut. D. E. McCarthy commanding, left Fort Bennett and proceeded to Bad River, S. Dak., on its annual practice march and field exercises. Returned to post September 17. Distance marched, 69 miles.

September 9, 1891.—Headquarters and troops A, B, C, D, I, and K, Eighth Cavalry, Lieut. Col. E. V. Sumner commanding, left Fort Meade, S. Dak., and proceeded in direction of Rapid City and Castle Creek, S. Dak., for practice marching and field exercises. Returned to post September 22. Distance marched, 138 miles.

September 9, 1891.—Headquarters and companies A, B, D, E, G, and H, Twentieth Infantry, troops C and F, First Cavalry, with detachment of Medical Department, Lieut. Col. J. C. Bates, Twentieth Infantry, commanding, left Fort Assiniboine, Mont., for practice in field exercises, and formed camp of instruction at Beaver Creek, Mont. Returned to post September 18. Distance marched, 36 miles.

September 14, 1891.—Company E, Twenty-Fifth Infantry, Capt. W. S. Scott commanding, left Camp Poplar River, Mont., en route to Fort Buford, N. Dak., changing station. Arrived September 18. Distance marched, 67 miles.

September 15, 1891.—Companies C and D, with detachment of B, Twelfth Infantry, Maj. J. A. P. Hampson commanding, left Fort Sully,

S Dak., and proceeded to Little Bend, on Missouri River, South Dakota, for practice marching and field exercises. Returned to post September 22. Distance marched, about 30 miles.

September 19, 1891.—Troops F and G, Eighth Cavalry, and company H, Twelfth Infantry, Lieut. Col. W. F. Drum, Twelfth Infantry commanding, returned to post from field exercises. Total distance marched, 166 miles.

September 21, 1891.—Troop C, First Cavalry, with First Lieut. F. S. Foltz, First Cavalry, and Assistant Surgeon A. M. Smith, Medical Department, First Lieut. W. C. Brown, First Cavalry, commanding, left Fort Assinniboine, Mont., for St. Marys Lakes, Montana, for hunting purposes and to make a reconnoissance of such sections of adjacent country as have not already been mapped.

October 11, 1891.—Troop E, First Cavalry, Capt. F. A. Edwards commanding, left camp on Nez Perces Creek, Lower Geyser Basin, Wyo., en route to its proper station, Fort Custer, Mont. Arrived at Fort Yellowstone, Wyo., October 13, having marched 40 miles, and on October 15 left Fort Yellowstone and arrived at Fort Custer October 26. Total distance marched, about 265 miles.

October 20, 1891.—Troop C, First Cavalry, First Lieut. W. C. Brown commanding, left camp at St. Marys Lakes, Montana, en route to station, Fort Assinniboine, Mont. Upon request of the agent and authority from department headquarters the troop remained one day—October 23—at the Blackfeet Indian Agency, Mont., pending development of trouble between Canadian mounted police and Blood Indians, two of the latter, who were present at a fight with the Canadian police, having escaped across the boundary line and taken refuge on the Blackfeet Reservation. Later, no trouble being anticipated and no further need of the presence of troops at the agency being apparent, the troop proceeded to its station. Arrived October 30. Total distance marched, 388 miles.

October 24, 1891.—Company A, Twelfth Infantry, Capt. J. H. Hurst commanding, left Fort Bennett, S. Dak., en route to Fort Yates, N. Dak., by steamer, changing station, pending the abandonment of the former post. Arrived October 28. Distance traveled by river, 164 miles.

November 3, 1891.—Troop L, Third Cavalry, First Lieut. Godfrey H. Macdonald, First Cavalry, commanding, left Fort Bennett, en route to Fort Meade, S. Dak., changing station. Arrived November 8. Distance traveled, about 200 miles.

November 5, 1891.—Troop B, First Cavalry, Capt. John Q. Adams commanding, left camp at the Tongue River Agency, Mont., the presence of troops at that point being no longer considered necessary, and returned to its proper station, Fort Custer, Mont. Arrived November 7. Distance marched, 60 miles.

November 16, 1891.—From telegraphic information received from the Adjutant-General's office, as furnished that office from the Department of the Interior, on above date it was learned that Bear Eagle and his followers had broken away from the Cheyenne River Agency, S. Dak., sold their cattle and effects, and had gone to Pine Ridge Agency, S. Dak., in a body, all the males being armed. Investigation was directed and the facts in the case were ordered to be reported. Accordingly, acting under instructions from these headquarters, First Lieut. S. C. Mills, Twelfth Infantry, left Fort Sully, S. Dak., November 16, and proceeded to the Cheyenne River Indian Reservation to make investigation and report. From the investigation made by Lieut. Mills it was learned that Bear Eagle and party, consisting of about 12 men and 45 women

and children, had abandoned their camp and disposed of their effects. Nothing authoritative was discovered as to their being armed. Copy of Lieut. Mills's report was forwarded to the Adjutant-General of the Army December 8, 1891.

November 18, 1891.—The military post of Fort Bennett, S. Dak., was finally abandoned, the detachment of troops remaining there was withdrawn, and the post turned over to the custody of an agent of the Quartermaster's Department.

November 28, 1891.—Troop L, First Cavalry, Second Lieut. William H. Osborne commanding, left Fort Custer and proceeded to the Crow Indian Agency, Mont., for the purpose of receiving the Government annuities to which the enlisted men of the troop were entitled. Returned to post November 30. Distance marched, 30 miles.

December 6, 1891.—Information by telegram was received from the commanding officer at Fort Custer that request had been made upon him by the Indian agent at Tongue River Agency, Mont., for troops to be sent to the agency "as soon as possible," fearing that trouble would ensue in consequence of the contemplated rearrest by the sheriff of an Indian, Walks Nights, who, together with another Indian, No Brains, were caught off the reservation killing cattle; stating that the Indian Walks Nights had been arrested by the sheriff, but escaped from him to the hills, where it was reported he was surrounded by a lot of young bucks prepared for fight; that he defies arrest and had sent word he would kill the agent and captain of police; that the police were demoralized and practically useless; that the employés and supplies were at the mercy of a lot of Indians who were "spoiling for a fight," and that the Indians have been and are still dancing, against his (the agent's) orders. [NOTE.—The foregoing facts, as stated by the agent, with regard to killing cattle off the reservation were not confirmed by subsequent investigation.]

Instructions were given on December 7 that a troop of cavalry be sent from Fort Custer, and troop K, First Cavalry, Capt. F. A. Boutelle commanding, proceeded to the agency to protect the lives of the agency employés and public property thereat. Troop left post on December 7. Arrived at the agency December 8. Distance marched, 60 miles.

December 12, 1891.—In compliance with instructions from headquarters Department of Dakota, dated December 7, Company A, Twenty-second Infantry, Capt. John McA. Webster commanding, left Fort Keogh, Mont., and proceeded to Tongue River Agency, Mont., being instructed to establish a substation at that point. Arrived December 17. Distance marched, 90 miles.

December 17, 1891.—Troop L, Eighth Cavalry, "Casey's Scouts," First Lieut. William D. McAnaney commanding, left Fort Keogh, Mont., and proceeded to the Tongue River Agency, Montana, for the purpose of recruiting for the troop from among the Indians at the agency. Arrived December 21. Distance marched, 90 miles.

January 14, 1892.—A detachment of Troop L, Eighth Cavalry, "Casey's Scouts," First Lieut. William D. McAnaney commanding, left Fort Keogh, Mont., to intercept and bring into the post the Cheyenne Indian, Walks Nights, who, it was learned, was on his way to Miles City, Mont., to surrender himself to the civil authorities. This Indian was originally charged with "killing cattle off the reservation." Upon invesigation it was ascertained that he killed a heifer only; that the killing was done near his ranch, on the reservation, and that he killed her because she broke into his lot several times and was destroying his hay. On January 15 the Indian referred to came into

Lieut. McAnaney's camp and was conducted to Fort Keogh. Arrived at post January 16. Distance marched, 34 miles.

January 20, 1892.—Company H, Third Infantry, Capt. Charles Hobart commanding, left Fort Snelling and proceeded to Red Wing, Minn., to act as escort and firing party at the funeral of the late Col. James S. Brisbin, Eighth Cavalry. The company returned to its station, Fort Snelling, the same day. Distance traveled by rail, 96 miles.

January 24, 1892.—Troop K, First Cavalry, Capt. F. A. Boutelle commanding, left camp at Tongue River Agency, Mont., and returned to its proper station, Fort Custer, Mont. Arrived January 26. Distance marched, 60 miles.

February 11, 1892.—Troop L, First Cavalry, First Lieut. S. C. Robertson commanding, left Fort Custer, Mont., and proceeded to the Government sawmill on Sand Creek, Montana, for the purpose of cutting and manufacturing lumber for the quarters allowed for the families of the married men of the troop. Returned to post February 26. Distance marched, 50 miles.

March 2, 1892.—Company D, Twenty-second Infantry, Capt. B. C. Lockwood commanding, left Fort Keogh and proceeded to Tongue River Agency, Mont., to relieve Company A, Twenty-second Infantry, and to carry out the instructions given to that company. Arrived at camp March 7. Distance marched, 90 miles.

March 9, 1892.—Company A, Twenty-second Infantry, Capt. J. McA. Webster commanding, on being relieved by Company D, Twenty-second Infantry, left camp at Tongue River Agency, Mont., and returned to its station, Fort Keogh, Mont. Arrived March 12. Distance marched, 79 miles.

March 18, 1892.—Second Lieut. Edward Anderson, First Cavalry, with a detachment of twelve Indian scouts, left Fort Assinnaboine, Mont., on a scout, for the purpose of intercepting a small war party of Canadian Blood Indians, reported to be moving toward the Gros Ventres Indian Reservation to steal horses. Nothing was seen or heard of the Indians, however, and the detachment returned to post March 20. Distance marched, about 55 miles.

March 30, 1892.—Troops F and G, Eighth Cavalry, Maj. R. F. Bernard commanding, left Fort Yates, N. Dak., en route for the Sisseton and Wahpeton Indian Reservation, S. Dak., for the purpose of clearing the reservation of intruders and guarding it from intrusion by proposed settlers until the day and hour of the President's proclamation for the settlement to commence.

April 1, 1892.—Companies A and E, Third Infantry, Capt M. C. Wilkinson commanding, left Fort Snelling, Minn., and proceeded to the Sisseton and Wahpeton Indian Reservation for the purpose of clearing the reservation of intruders and guarding it from intrusion by proposed settlers until the day and hour of the President's proclamation for the settlement to commence, and which took place at noon, April 15. Upon being notified that the presence of troops was no longer necessary at the reservation, the command returned to its proper station, Fort Snelling.

April 16, 1892.—Having been notified by United States Indian Agent Wm. McKusick that, as the reservation was opened and everything satisfactory, the presence of troops there was no longer necessary, Troops F and G, Eighth Cavalry, Maj. R. F. Bernard commanding, left camp at Brown's Valley, Minn., April 18, on its return to Fort Yates from detached service at the Sisseton and Wahpeton Indian Reservation. Ar-

rived April 22. Distance traveled by rail, 764 miles, and by marching—Troop F, 350 miles, and Troop G, 123 miles.

April 20, 1892.—Headquarters and troops A, B, E, G, K, and M, First Cavalry, Col. A. K. Arnold commanding, left Fort Custer, Mont.; Troop D, First Cavalry, Capt. A. G. Forse commanding, left Fort Keogh, Mont.; Troop H, First Cavalry, Capt. George S. Hoyle commanding, left Fort Buford, N. Dak., and on April 21, Troops C and F, First Cavalry, Capt. F. K. Ward commanding, left Fort Assinnaboine, Mont., all en route to the Department of Arizona, changing station.

April 29, 1892.—Second Lieut. Wilson Chase, Twentieth Infantry, with detachment of two enlisted men and six enlisted Indian scouts, left Fort Assinniboine, Mont., for the purpose of arresting and bringing into the post three Indians reported to have stolen property from a ranchman, named Brown, on Little Box Elder Creek, Montana.

April 29, 1892.—Headquarters and Troops A, B, C, D, E, F, G, H, K, L, and M, Tenth Cavalry, left the Department of Arizona, en route to Department of Dakota, changing station, and were assigned to posts in this department as follows: Headquarters and Troops A, B, E, G, K, L, and M, Fort Custer, Mont.; Troops C and F, Fort Assinniboine, Mont.; Troop D, Fort Keogh, Mont.; and Troop H, Fort Buford, N. Dak.

May 4, 1892.—The detachment under command of Second Lieut. Wilson Chase, Twentieth Infantry, consisting of two enlisted men, one interpreter, and six Indian scouts, which left Fort Assinniboine, Mont., at 5:30 p. m. April 29 for the purpose of arresting and bringing in to the post three Indians reported to have stolen property from a ranchman, named Brown, on Little Box Elder Creek, Montana, found the Indian camp on Beaver Creek, April 30, but it had been then abandoned; considerable beef, however, hung out to dry; tin plates and some bedding belonging to the rancher whom they had robbed were also found. The detachment patroled Box Elder Creek to Box Elder Station and learned that the Indians were seen moving in a westerly direction, but failed to find them or get any more information concerning them. Returned to Fort Assinniboine, Mont., May 4. Distance marched, 87 miles.

May 4, 1892.—Troops C and F, Tenth Cavalry, Capt. C. E. Nordstrom commanding, arrived at Fort Assinniboine, Mont., from the Department of Arizona, and took station.

May 5, 1892.—Headquarters and Troops B, E, G, and K, Tenth Cavalry, Lieut. Col. D. Perry commanding, arrived at Fort Custer; Troop A, being dismounted, marched from Custer Station and arrived at post May 8, coming from the Department of Arizona, and took station.

May 5, 1892.—Troop H, Tenth Cavalry, Second Lieut. S. D. Rockenbach commanding, arrived at Fort Buford, N. Dak., from the Department of Arizona, and took station.

May 5, 1892.—Troop D, Tenth Cavalry, Capt. A. C. B. Keyes commanding, arrived at Fort Keogh, Mont., from the Department of Arizona, and took station.

May 18, 1892.—A detachment of troop E, Tenth Cavalry, First Lieut. W. H. Smith, adjutant Tenth Cavalry, commanding, left Fort Custer, proceeded to Custer Station, and escorted the department commander and staff to the post. Distance marched, about 70 miles.

May 22, 1892.—Company C, Twenty-second Infantry, Capt. P. M. Thorne commanding, left Fort Keogh, en route for camp near Tongue River Agency, Mont., to relieve Company D, Twenty-second Infantry, from duty at the agency and to carry out the instructions governing

troops at that place. Arrived at the camp May 27. Distance marched, 90 miles.

May 30, 1892.—Troop D, Sixth Cavalry, Capt. G. L. Scott commanding, arrived at Fort Yellowstone from Fort McKinney, Wyo., for temporary duty in the Yellowstone National Park during the season. Distance marched, 360 miles.

June 2, 1892.—Company D, Twenty-second Infantry, Capt. B. C. Lockwood commanding, having left camp near Tongue River Agency, Mont., May 29, 1892, on being relieved from duty at that point by Company C, Twenty-second Infantry, arrived at Fort Keogh, Mont. Distance marched, 95 miles.

June 4, 1892.—A detachment of about fifteen enlisted men, under charge of a noncommissioned officer, with sufficient transportation, were sent out from Fort Yates, N. Dak., and ordered to report to First Lieut. Frederick R. Day, Twentieth Infantry, in charge of military telegraph lines, for the purpose of distributing poles and completely repairing the military telegraph line between Fort Yates and Bismarck, N. Dak., the detachment being relieved every 10 days during the month by similar details from Fort Yates.

June 23, 1892.—Company E, Twenty-second Infantry, First Lieut. J. F Kreps commanding, left Fort Keogh, Mont., en route to Fort Pembina, N. Dak., changing station. Arrived at latter post June 24. Distance traveled, 711 miles.

July 1, 1892.—Company I, Third Infantry, First Lieut. John H. Beacom commanding, left Fort Sully, S. Dak., on a practice march to Forest City, S. Dak., which point the company reached July 3, and encamped thereat until July 6, when the company returned to its proper station, Fort Sully, S. Dak. Arrived July 8. Distance marched, 88 miles.

July 9, 1892.—Troop L, Eighth Cavalry, "Casey's Scouts," First Lieut. William D. McAnaney commanding, left Fort Keogh, Mont., en route to Lame Deer, Mont., for the purpose of recruiting for the troop. Arrived at Camp Merritt, near Tongue River Agency, Mont., July 12. Distance marched, about 90 miles.

July 12, 1892.—Under instructions from the Major-General Commanding the Army, companies F, G, and H, Twenty-fifth Infantry, Capt. W. I. Sanborn commanding, left Fort Missoula, Mont., and proceeded to the Cœur d'Alene mining district, near Wardner, Idaho, to assist in suppressing the disorders then existing near that point and to protect life and property, the command being directed to report to Col. W. P. Carlin, Fourth Infantry, who was in command of the forces there, for duty with his command. Upon arrival at Mullan, Idaho, at 5.30 a. m., July 13, it was discovered that the Northern Pacific Railroad track was blown up, and having reported this fact to Col. Carlin, he directed the command to return to Missoula and join him at Wardner Junction, Idaho, via Cœur d'Alene City and Harrison, and thence by Union Pacific railroad to his camp. Arrived at Wardner Junction at 6:30 p. m., July 14; went into camp and assisted in guarding trains, furnishing escorts, scouting, and in making arrests. Relieved from duty at that point and left for proper station at 3 o'clock p. m. July 27, and arrived at Fort Missoula at 8:30 a. m. July 28. Distance traveled, about 722 miles.

July 13, 1892.—Under instructions from the Major-General Commanding the Army companies B, D, F, G, and H, Twenty-second Infantry, Lieut. Col. John H. Page commanding, left Fort Keogh, Mont., at 11:55 p. m., en route for Wardner, Idaho, to report for duty to Col. W. P. Carlin, Fourth Infantry, in charge of forces then engaged in suppress-

ing disturbances and in the protection of life and property at that point. The command reached Wallace, Idaho, July 16, and remained on duty thereat under the orders of Col. Carlin until July 27, when the command left for its proper station, Fort Keogh. Arrived July 29. Distance traveled, about 1,300 miles.

July 22, 1892.—Troop C, Eighth Cavalry, Capt. J. B. Hickey commanding, engaged in a practice march from Fort Meade to Hot Springs, S. Dak., returning to post July 31. Distance marched, 198 miles.

The march of the squadron of the Eighth Cavalry under Maj. Bernard (now lieutenant-colonel Ninth Cavalry) from Fort Yates to Mandan, N. Dak., with a view to clearing the Sisseton and Wahpeton Indian Reservation in South Dakota of intruders, pending its opening to settlement by proclamation of the President, was especially severe, owing to the bad roads and excessively rigorous weather in the early part of April. The post commander remarks: "The month of April has been unusually stormy, and the weather encountered by these troops could hardly have been worse. The storm that struck them on April 1 was regarded as a bad one even for Dakota. Men and horses returned to the post in comparatively good condition."

It should be remarked that Lieut. Col. Bernard, with this squadron of the Eighth Cavalry, and the battalion of infantry from Fort Snelling, performed the duty asssigned in the most satisfactory manner. Indian Agent McKusick writes Maj. Bernard in part as follows: "Your command has rendered prompt and efficient service, and for their soldierly bearing, respectful and moral conduct, have the thanks of the people."

As directed in General Orders, No. 80, Adjutant-General's office, 1891, I append a "carefully prepared statement* of accomplished work in the various lyceums of this command." A reasonable supervision has been had of the organization and administration of the lyceums, and such assistance in the details of their inception and work as was necessary was offered them from these headquarters. Without exception they have, I think, been an advantage to the officers of the various posts. Capt. Miner, the assistant to the inspector-general who was charged with inspection of the lyceums of some of the posts of this department, reports that at the posts specified he visited the lyceums and attended the recitations and readings, and conversed with many officers on the subject, and that in the opinion of all an immense amount of good had resulted and was likely to result from the system. A principal advantage seemed to arise in giving officers an incentive to study, and objects on which to make research. The discussions by other officers of each subject treated of have been interesting, and in every case have been the means of valuable instruction.

In this construction I desire to call attention to the fact that under the regulations, at present, there are no known means to increase the supply of books in the post libraries, nor to repair those that from use need rebinding. This last is very important. It is estimated that at the posts in the department there are at least ten thousand volumes of valuable books that are going to ruin for want of a small fund to keep them in repair. If something is not soon done to save them it is feared they will be lost to officers and men, to whom they are an important source of instruction and enjoyment.

The supply of proper forage to the cavalry is, it strikes me, of sufficient importance to be mentioned in this report. I have for a number of years in the past recommended that baled hay for cavalry be con-

*Omitted.

tracted for. Success in accomplishing this has not been commensurate with the effort made. Annually there is a great loss of hay at many posts resulting from receiving the hay in bulk and stacking it at the posts. The loss this year at different posts in this department has amounted to about 350 tons. My experience leads me to believe that there has been a corresponding loss throughout the Army from the same causes. If baled hay were contracted for I do not doubt that the loss from damage by the weather, blowing away, and shrinkage could be practically obviated. The increase in the price of baled hay over the loose, now that the facilities for baling are within every hay man's reach, would not be great.

So far as my information extends the Indians on the reservations in the limits of this department are contented and well disposed. This condition is not so evident in the case of the Northern Cheyennes of the Tongue River Agency. As indicated in my report for last year these Indians are not contented. They are crowded on a reservation too small for them, especially since their numbers have been increased by the accession of the 370 brought from the Sioux reservations more than a year since, and the ill-feeling is aggravated by the encroachments of white men who have settled on the reservation.

Indian recruiting is not progressing favorably so far as the foot companies are concerned. The company at Camp Poplar River numbers 43, that at Fort Sully 24, and that at Fort Yates 26. All these organizations are under the control of capable officers, who are doing much for the improvement of the men, and even if the organizations are not increased in the numbers of enlisted Indians, a good work is being done in civilizing those now in service. The mounted organizations at Forts Meade and Custer are practically full, and have made remarkable progress as soldiers. The one at Fort Keogh, recruited from the Northern Cheyennes, lacks two-thirds of its complement of soldiers. The officer in command of this troop, however, is doing exellent work in improving the material now in his troop, and will, I doubt not, succeed in filling it to the maximum, if it is in the power of anyone to accomplish the work in the face of the opposition which, because of the ill-feeling of the members of the Northern Cheyenne tribe, comes from this band of Indians.

With the exception of the difficulty in recruiting mentioned above, these Indian organizations have been quite as successful as was expected. The Indian takes great pride in the service and imitates the white soldier with marked intelligence. They are well drilled and willing in the discharge of their duties, subordinate and generally well conducted. Their excellence in all respects represents the result of care and hard work on the part of their officers, who are entitled to much praise for their efficiency under many difficulties.

In the record of events it is mentioned that the garrisons of Forts Keogh and Missoula performed service in connection with the mining strikes in the Department of the Columbia. Especial attention is called to the promptness with which these garrisons, especially that from Fort Missoula, took the field equipped for service. The troops from both Forts Keogh and Missoula returned to their stations commended for valuable services by their commander in the field.

In view of the danger of an invasion of the country by an epidemic of cholera, it is considered proper to call attention to the fact that the history of the introduction into the Army of the scourge in past years shows it to have come with recruits from stations in the more densely

populated districts. This fact is pregnant with a suggestion as to how its presence at our frontier stations may be prevented.

The subject of mounts for the cavalry service is one that deserves attention. Horses are now being purchased for the cavalry organizations of this department of breeders in Montana. There is complaint that many of the horses so procured are wild and in some instances vicious. It is not to be doubted that such is the case when it is considered that these horses run wild on the ranges from the time they are foaled until they are caught up at four or five years of age to be sold. Running at large in herds, it is easy to be seen that they contract habits of biting and kicking, of which it is difficult to break them. It is suggested that careful treatment will reduce them to gentleness and usefulness. With a view to this I have had the facts detailed to officers to whom these horses are supplied and have advised increased care and careful handling, so that if possible the horses may gradually become used to the new conditions surrounding them and kindly submit to the service required of them. While not large enough generally for cavalry horses, these animals are fairly well suited for the service were it not for their lack of being broken and handled while maturing. The trial to be given under the present circumstances will determine whether or not it is economy to purchase such horses. In any event, it is thought that it would be better for the Government to buy then as yearlings and have them carefully handled until old enough for service. In this way they could be bitted and broken under control of cavalry officers, which is very desirable. Attention is especially invited to what is said on the subject in the report of the inspector-general of the department.

The troops in this department may be said to be in an excellent state of discipline and well instructed. This is shown by the reports of officers and the results of drills and target practice. There is much complaint, however, among line officers because of a lack of good material for non commissioned officers. Many of the best men leave the Army after a short service under recent regulations. This condition suggests a means of keeping good men by giving them more pay as noncommissioned officers. This has been recommended over and over again as a matter of justice for work required, and it now looks as though it were even more necessary to keep up the tone of the Army.

The judge-advocate of the department has lately called attention to the following facts in reference to the laws affecting the jurisdiction over military reservations in this department. It is observed that the act of the legislature of Minnesota, purporting to cede jurisdiction over Fort Snelling, contains in its second section a reservation of jurisdiction to the State, which renders the cession of doubtful value to the United States. In reference to a similar act relating to public-building sites of the State of Iowa, containing the proviso that "nothing in this act shall be so construed as to prevent, on such lands, * * * the courts of this State from exercising jurisdiction of crimes committed thereon," the Attorney-General of the United States, Mr. Cushing, said: "This reservation is distinctly incompatible with the provisions of the penal acts of Congress, and would obstruct, if not defeat, the execution of these acts. Moreover, it is altogether inconsistent with any possible construction of that 'exclusive' jurisdiction which, according to the letter and the intent of the Constitution, are in such cases to be vested in the United States. * * * It is still more necessary that acts performed thereon, and alleged to be criminal, shall be saved from the criminal authority of the State. * * * It is impossible to go beyond

this point and give to the courts of the Slate, as proposed in this act, jurisdiction of crimes committed on such sites, to the exclusion of, or even in concurrence with, the proper jurisdiction of the United States." The objection here urged would appear to apply with even greater force to a military reservation, and in the case of Fort Snelling might operate to prevent the United States from accepting a cession qualified as this one is.

The constitution and laws of Montana confer upon the United States the exclusive jurisdiction intended in the Federal Constitution, and appear to be entirely satisfactory. The same is true of the reservation contained in the act of Congress admitting Wyoming to the Union.

The statute of North Dakota appears to be entirely prospective. It provides the consent of the legislature for the subsequent acquisition of land for Federal purposes, and over such future acquisitions cedes a jurisdiction which, properly construed, is exclusive in the United States. This, it appears, leaves the present military reservation in North Dakota entirely under the jurisdiction of that State.

The same is true of the posts and reservations in South Dakota. The act of that State is practically identical in language with one passed by the legislature of California in 1852. That statute was construed by the United States circuit court in United States *v.* Bateman, reported in 34 Federal Reporter, p. 86, a case in which the jurisdiction over the Presidio military reservation was in question. The court there decided that such act did not pass exclusive jurisdiction to the United States over any military posts or reservations owned and occupied by the United States at the time of its passage. It follows that South Dakota has complete jurisdiction still over the posts in that State.

Section 355, Revised Statutes, provides that "No public money shall be expended upon any site or land purchased by the United States for the purpose of erecting thereon any * * * arsenal, fort, fortification * * * nor until the consent of the legislature of the State in which the land or site may be, to such purchase has been given."

Consent by the legislature of a State to such purchase by the United States has uniformly been held to vest exclusive jurisdiction in the Federal Government by virture of the language of article 1, section 8, paragraph 17, of the Constitution. In view of future expenditures of public money on the posts in this department situated in the States of Minnesota, North and South Dakota, and of the manifest propriety and desirability of having all military reservations under the exclusive jurisdiction of the Federal Government, this entire subject, briefly referred to above, is called to the attention of proper authority.

Attention is invited to the reports of the officers of the different staff departments on duty at these headquarters. Recommendations submitted by them are worthy of special consideration.

The annual report of the inspector of small-arms practice can not be completed until the close of the target practice season, when it will be forwarded. In the meantime attention is invited to a brief report by Maj. Davis, of the annual target competition conducted at Fort Keogh in this department. The results of the competition are most satisfactory and speak well for the zeal and attention of the officers and men in this most important practice in a soldier's education.

Very respectfully, your obedient servant,

WESLEY MERRITT,
Brigadier-General, Commanding.

The ADJUTANT-GENERAL U. S. ARMY,
Washington, D. C.

REPORT OF BRIG. GEN. BROOKE.

HEADQUARTERS DEPARTMENT OF THE PLATTE,
Omaha, Nebr., September 10, 1892.

SIR: In compliance with instructions from Headquarters of the Army, dated August 3, 1892, I have the honor to submit this my annual report.

During the past year the headquarters and five companies of the Twenty-first Infantry have been relieved from duty in this department and sent to the Department of the East; otherwise the regiments serving in the Department remain the same.

Practice marches were held during the autumn of 1891 from the various posts with beneficial effect.

Company I, Eighth Infantry, and Troop L, Sixth Cavalry, recruited before my last annual report, have progressed finely.

The enlistment of Indians was continued, and Company I, Second Infantry, was recruited from the Ogalallas, at Pine Ridge, to its full strength and stationed with its regiment at Fort Omaha, Nebr.

Company I, Sixteenth Infantry, was recruited from the Brûlé Sioux, at Rosebud Agency, and is with its regiment at Fort Douglas, Utah.

Enlistments for Company I, Twenty-first Infantry, are still progressing, and the company now at Fort Randall, S. Dak., has thirty-seven men.

The effort to recruit a company of Indians for the Seventh Infantry in Oklahoma and Arizona Territories was not successful.

I have deemed it wise not to attempt a further enlistment of Indians up to this time, but shall do so should a favorable opportunity occur. There are now four companies of infantry and one troop of cavalry on duty in this department.

As far as can be judged the experiment of making soldiers of Indians promises success. I inclose herewith the reports* of the officers commanding these companies, which will show more in detail what has been accomplished.

The changes of stations of troops in the department have been few in number and comprised as follows:

September 10, 1891.—Company E, Tenth Infantry, from Fort Lewis, Colo., to Fort Stanton, N. Mex.

October 9, 1891.—Company G, Seventh Infantry, from Fort Logan, Colo., to Camp Pilot Butte, Wyo.

October 11, 1891.—Company A, Seventh Infantry, from Camp Pilot Butte, Wyo., to Fort Logan, Colo.

October 24, 1891.—Fort Lewis, Colo., abandoned as a military post.

April 22, 1892.—Company G, Twenty-first Infantry, from Fort Randall, S. Dak., to Fort Sidney, Nebr.

April 29, 1892.—Company H, Twenty-first Infantry, from Fort Randall, S. Dak., to Department of the East.

May 1, 1892.—Headquarters, band and Companies A, B, C, and E, Twenty-first Infantry, from Fort Sidney, Nebr., to Department of the East.

May 13, 1892.—Troop D, Sixth Cavalry, from Fort McKinney, Wyo., to Yellowstone National Park, Wyo., for temporary duty during the park season.

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*Omitted.

On April 12 I received instructions from the Headquarters of the Army to have the troops at Fort McKinney, Wyo., assist the State authorities in restoring order, which was seriously threatened in the vicinity of that post. Fortunately all further conflict was averted by the surrender of one party to the troops and the gradual dispersion of the majority of the others to their homes. The arrested parties were conveyed to Fort D. A. Russell, Wyo., and there held under guard until the 5th day of July, when they were transferred to the custody of the State authorities, under orders from Headquarters of the Army.

Two camps were established in the disturbed region of Wyoming; one at Powder River, near the crossing of the Burlington and Missouri Railroad over that stream, consisting of headquarters and six troops of the Ninth Cavalry; the other near the site of old Fort Fetterman, consisting of headquarters and six troops of the Sixth Cavalry. I am informed that the presence of these troops in the disturbed region has had a good influence.

The unfinished condition of Forts Niobara and Robinson calls for prompt action. The restoration of the three sets of company quarters and one other building burned at Fort McKinney requires immediate attention.

The enlargement of barracks at Fort Douglas, Utah, is highly necessary. Numbers of men are necessarily quartered in tents; this and the improvement of the water supply at this post have been urgently recommended, which recommendation is herein renewed.

The replacing of a portion of the company quarters at Fort D. A. Russell, Wyo., and the increase of the size of the storehouse at that post are an urgent necessity.

I will again renew my recommendation, made since my last annual report, that the garrison at Fort Du Chesne, Utah, be withdrawn, and that that post be abandoned as a military station. The attitude of the Indians in its vicinity is such as to make it unnecessary to longer maintain a military force near them. The only good accomplished by the garrison at this time is to prevent whites encroaching on the Indian reservation, and this could as well be done by the Indian agent. Should any trouble arise with these Indians, troops could soon reach those points where their presence would be most necessary; but I do not think it probable that these tribes will again be found on the war-path, unless it be to defend their homes from trespassers.

Instruction in military signaling with flag, torch, and heliograph and other devices was carried on during the months of October and November, 1891, at all posts in the Department, and Army Regulations 1671 fully complied with.

The report of the inspector of small-arms practice gives the result of the annual competition and the result of the cavalry competition of Departments of the East, California, and Platte, which latter was held at Bellevue rifle range at Bellevue, near this city. The standing of the various posts, regiments, and companies in the Department will be given as soon as the reports from the posts can be tabulated and arranged.

I think the time has arrived when the soldiers who have passed beyond the recruit course may be practiced at the silhouette or other suitable targets over ground which is not known to them. The continuation of the practice at known distances is valuable to recruits and should be maintained for them, but such soldiers as have passed beyond the recruit course should be practiced in a manner which would develop their efficiency for battle purposes and which can not be done upon any

ground well known to them. I renew my recommendation as regards the Bellevue rifle range, and that an allotment be made for payment of rent for this range, which has been used for the past two seasons without expense, by the courtesy of the owners of the grounds.

From the reports received it is found that the post exchanges have passed beyond the experimental stage and may now be considered a successful and valuable institution.

The report of the acting-judge advocate shows an increase in the trials by courts-martial over those of last year. I consider this increase as due to the efforts of officers to maintain discipline by resort to military courts and that the discretion granted them in paragraph 7, Circular No. 13, Headquarters of the Army, 1891, has not been sufficiently exercised, and it is also due, in a measure, to the decrease in the number of old soldiers in the various regiments. Until officers commanding troops shall be upheld in minor disciplinary measures this large number of trials by courts-martial may be expected to continue.

The inspection of posts is progressing and will not be completed in time to embody the full report of the Acting Inspector-General. As far as it has been completed the reports show discipline good and that instruction in drill regulations, target practice, signaling and schools for enlisted men have been progressing satisfactorily at the different posts, a general improvement being found over that of the previous year.

The Officers' Lyceum was established at each of the posts in the department, and the accompanying synopsis* of the reports of work accomplished will show what was done at each post during the six months. I deem it too early in the life of this institution to make any recommendation. As far as observed in the reports of the commanding officers of the different posts of the progress made, the general purpose of the establishment of the lyceum seems to have been well inaugurated.

I would ask attention to the accompanying reports of the chiefs of the various staff departments at these headquarters, which give in detail the operations of the various departments during the year.

I wish to invite particular attention to the report of the medical director regarding the sanitary conditions of the immediate vicinity of Forts Logan and Douglas. The report shows the necessity for a prompt improvement in the water supply and sewerage system at the latter post. The duties of the officers of my staff have been performed with a degree of excellence which justifies me in commending each and all of them to favorable notice of the Major-General Commanding the Army.

Very respectfully, your obedient servant,

JOHN R. BROOKE,
Brigadier-General, Commanding.

The ADJUTANT-GENERAL, U. S. ARMY,
Washington, D. C.

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* Omitted.

REPORT OF BRIG. GEN. M'COOK.

HEADQUARTERS DEPARTMENT OF ARIZONA,
Los Angeles, Cal., September 1, 1892.

SIR: I have the honor to submit the annual report of the Department of Arizona.

This department includes the Territories of Arizona, New Mexico, and that portion of the State of California lying south of the thirty-fifth parallel of latitude. The total area in square miles is 275,010; area of Indian reservations in square miles, 26,303; number of Indians upon reservations, 39,577; population of Arizona, New Mexico, and California south of the thirty-fifth parallel, 417,017.

There are eleven military posts in the department. In Arizona: Fort Apache, Fort Bowie, Fort Grant, Fort Huachuca, San Carlos, and Whipple Barracks. In New Mexico: Fort Bayard, Fort Marcy (Santa Fe), Fort Stanton, and Fort Wingate. In California: San Diego Barracks.

Fort Apache is located in the northern portion of the White Mountain Reservation—is also a subagency for the Coyotero and White Mountain Apache Indians. This post is 97 miles south of Holbrook, a station on the Atlantic and Pacific Railroad, on White Mountain Creek. The country in and about this station is mountainous and beautifully picturesque. During the winter months it is almost inaccessible on account of bad roads and is comparatively an expensive post to maintain. The present garrison consists of one troop of First Cavalry and two companies of the Eleventh Infantry. Formerly the garrison of this post consisted of five troops of cavalry. This change will materially reduce the expense of supporting this post. There was an understanding that the Indians living in the vicinity of the post should furnish the hay required. There is no substance like hay growing in the vicinity of this post, and to assist in supporting the White Mountain Apaches these latter were permitted to cut a pine grass, of very coarse fiber, and deliver it to the post quartermaster, calling it hay. It was unfit for food and injured the animals. These Indians should be encouraged in self-support, but it should not be done to the injury of the public animals. The support of these Indians should fall upon the Interior Department, where sufficient appropriation should be placed.

FORT BOWIE.

This post is located in the northwest spur of the Chiricahua Mountains, 14 miles south of Bowie Station on the Southern Pacific Railroad. During the late Apache wars it was an important post to hold on account of its geographical location and the springs of water from which the station is now supplied. During the times of peace now enjoyed by the Territory of Arizona, Bowie as a military post ceases to be of such military importance, and could be abandoned when proper shelter can be made for its garrison at the other posts in the department. The present garrison is composed of two troops of cavalry.

FORT GRANT.

So long as the Apaches, Yumas, Mojaves, and Tontos are concentrated in and about San Carlos, Fort Grant, on account of its location,

will continue to be an important military post. It is now garrisoned by the headquarters and five troops of the First Cavalry. Requisitions have been made for some iron pipe to increase the water supply at this post. These requisitions have been disapproved, for what reason is not known. If something is not done to improve this water supply, this important post must be abandoned or the officers and enlisted men be put to great inconvenience for want of water, the water for the animals being drawn from wells. Attention is especially called to report of commanding officers of the post upon the subject.

FORT HUACHUCA.

This post is located 14 miles north of the boundary between Mexico and the United States, also 9 miles from a station on the Sonora and Guaymas Railroad. The present garrison of this post consists of two troops of the Second Cavalry, four companies of Twenty-fourth Infantry, and Company I, Eleventh Infantry (Apache Indians). It is an important post and should be maintained.

SAN CARLOS.

This post is the only one in the department where the temperature is extreme; situated on the Gila River 117 miles from Wilcox on the Southern Pacific Railroad. The heat in the summer at this place is intense, averaging 110° during June, July, and August. Fortunately troops at this post are considered in the field and usually their tour of duty is limited to six months.

The officers are now sheltered in comparatively comfortable quarters, but the enlisted men remain in their canvass sheds and are necessarily most uncomfortable. There should at once be erected two barracks of adobe (thick walls) with doors and plenty of windows, the roughest finish, in order to protect from the intense heat the enlisted men who serve tours of detail at this post. Common humanity demands that this should be done, for as long as the agency is held at San Carlos, so long will the presence of troops be required there.

WHIPPLE BARRACKS.

The military reservation of this post adjoins the city limits of Prescott, Ariz. Orders were at one time received to abandon this post as a military station. This order was reconsidered by the Major-General Commanding the Army, with instructions that plans and estimates be made and forwarded for approval of four barracks for enlisted men. The railroad from Ash Fork on the Atlantic and Pacific Railroad is rapidly nearing Whipple Barracks, reaching there by November 1 of this year, whence it will be at once continued to Phœnix, the Territorial capital, in the productive valley of Salt River. These improvements will be an important feature in that country, making Whipple Barracks one of the most desirable locations for a military station in the Department. From this point troops can be sent north or south to the Santa Fe or Southern Pacific roads, upon which they can be moved east or west through the northern or southern portions of the Territory. Therefore it is earnestly recommended that Whipple Barracks be retained as a military post and that the new barracks be built so that the headquarters and the four companies of the Eleventh Infantry now composing that garrison be made reasonably comfortable.

FORT BAYARD.

This point is situated at the southern base of the Black Range Mountains, 55 miles northwest from Deming, on the Southern Pacific and Santa Fe roads. The post is 9 miles from Silver City and 3 miles from a new railroad completed since my last report. The garrison consists of headquarters, band, and four companies, Twenty-fourth Infantry, with two troops of the First Cavalry. It is an important post, and should be retained.

FORT STANTON.

This post, established in 1854, is in a picturesque country on the banks of the Bonita Creek, 100 miles east of Carthage, N. Mex. The post will be a necessity until the Mescalero Apaches become more used to the ways of civilization. The garrison consists of one troop of the Second Cavalry and one company of the Tenth Infantry.

FORT WINGATE.

The importance of this post increases every year on account of its vicinage to the Navajo Reservation. This post will be permanent for years. It should be enlarged to a full regimental post. In case of war with the Navajo Indians it would at once become a large depot of supplies for the campaign. The old quartermaster's warehouse at this place is a disgrace to civilization. It is old, leaky, dirty, and unfit for occupancy. It is impossible to keep the quartermaster's supplies in anything like order under such conditions. A good and commodious quartermaster's warehouse can be economically built there, and it should be done at once. The ground is favorable for the enlargement of this post, and the water supply is good and abundant. The present garrison consist of headquarters, band, and five troops of the Second Cavalry, four white and one Navajo Indian; two companies of the Tenth Infantry, one white and one Apache Indian.

FORT MARCY.

This post is at Santa Fe, N. Mex. The present garrison is composed of the headquarters, band, and two companies of the Tenth Infantry. Efforts are now being made to make Fort Marcy a regimental post. A board has been assembled to examine and report upon a certain tract of land which has been donated by the board of trade of that city, for the purpose of placing thereon buildings suitable for a regimental post.

SAN DIEGO BARRACKS.

This is the only military post in southern California. Its garrison consists of one company of infantry. The last annual report of the department made mention of the advantages of this place, with its splendid harbor, upon the shores of which a military establishment commensurate with its importance should be placed. The ground for the erection of a military post has been selected by a board convened by resolution of Congress. I recommend that an appropriation be asked for for the purchase of this ground; also for the erection of suitable buildings for a regimental post.

EXCHANGE OF TROOPS.

The Tenth Cavalry was relieved by the First; the Ninth Infantry by the Eleventh Regiment.

INDIAN TROOPS.

There is one troop of cavalry—L, Second Regiment—and two companies of infantry, respectively, of the Tenth and Eleventh Regiments, in this department.

The mounted troop was enlisted from the Navajo tribe, and has station at Fort Wingate, N. Mex. This troop was in the field doing courier duty between Fort Wingate and Carrizo Mountains during May and June of this year. The duty was, so far as reported, performed well.

Company I, Tenth Infantry, is posted at Fort Wingate. This company was enlisted from White Mountain and Coyotero Apaches at or near Fort Apache, and from the Yumas and Mojaves, and Tonto and San Carlos Apaches.

Company I, Eleventh Infantry, is quartered at Fort Huachuca. This company was recruited from the San Carlos and Tonto Apaches; also from the Yumas and Mojaves held upon the White Mountain Reservation, near San Carlos Agency. These two latter companies have suffered, and no doubt have not progressed as they might have done, on account of the repeated changes of the company commanders.

The company commander of the cavalry troop is also relieved, and commander of I Company, Tenth Infantry, has fallen sick and left for the East.

Permanency in company commanders is necessary, in order that proper progress be made with these people as soldiers.

EDUCATION.

The vicissitudes of military life, especially in this department, interferes seriously with the education of the enlisted man; this, coupled with lack of system, has been a bar to progress. Then, again, no kind of education can be successfully carried on without efficient teachers. I recommend that forty experienced teachers, who can enlist under like conditions with general-service men, receiving the same pay, be employed and stationed at the most important posts, so that this matter of education of the enlisted man should have a fair trial. Under the present arrangement I submit a system of progressive education for the enlisted man, carefully prepared by Chaplain Allensworth, of the Twenty-fourth Infantry. (Appendix M.*) I recommend its adoption, for good will flow from its use. I also ask that ten copies of "The New Education," with charts, be purchased and forwarded to this department for use in enlisted men's schools.

The officers' lyceum established by General Orders, No. 80, Adjutant-General's Office, series of 1891, has proven a great success in this department, and much good has resulted therefrom. The care in the preparation of the essays submitted and the intelligence displayed upon the subjects discussed by a large majority of the officers is most commendable. These essays were submitted to the department commander, read with interest by him, and comments at the time made in writing upon them. This good work should be persevered in.

* Omitted.

DISCIPLINE.

The devotion to duty and the intelligence displayed in the discharge of the same has been, on the part of the commissioned officers of this command, most commendable. On the part of the enlisted men the trials by general courts-martial have been decreased, but a slight increase has occurred in the trials by summary court.

INDIAN DEPREDATIONS.

"The Kid," a San Carlos Apache Indian, a refugee from the civil authority, is at large, living in the mountains bordering upon the White Mountain Indian Reservation. By his conduct he has caused much anxiety to white people living near the border of this reservation, as well as to the Indians who have homes upon the same. It is reported that this Indian killed an Apache woman on the 17th of May, on south side of Black River, escaping with the daughter of the murdered woman. Troops and Indian scouts were unsuccessful in capturing him. On the 30th day of May last he killed a young boy named Dobie, 30 miles north of Florence, Ariz. Upon receipt of news of the killing, two scouting parties were at once started from San Carlos upon the trail of this fugitive, commanded by experienced officers, accompanied by Indian scouts and trailers. Neither of those parties succeeded in overtaking the renegade. Two scouting parties were also sent out from Huachuca to scour the Catalina Mountains, as Kid evidently went in that direction.

On June 5 this savage captured a squaw of Dazen's band, White Mountain Apaches, 60 miles west of Fort Apache. Indians pursued, but could not overtake him, he having three ponies.

Scouting parties under active young officers, with Apache trailers, are frequently out after this desperado. He knows every foot of the country, and thus far has escaped capture. Many plans and devices have been put in operation to entrap and capture this wily savage. He eludes them all.

On the 20th of June last a Navajo Indian named Choehos killed a Mormon, resident of Tuba City, Coconino County, Ariz. The Indians claim that the killing was done in self-defense. There is no testimony from white men to refute this. No warrant has issued for the arrest of the Indian; it was feared it would prove unavailing and might lead to more killing. All is quiet in that neighborhood since this event. Lieut. Michie, Second Cavalry, went with detachment from Fort Wingate to investigate.

On August 8 two men were killed at Davenport's ranch, 20 miles south of Separ, N. Mex. These murders are said to have been committed by Indians. Investigation was at once made by Lieut. Hornbrook, with detachment from Fort Bowie, who went to the scene of depredation. The testimony is not conclusive. These depredators were said to be eight in number. The agent at San Carlos reports no Indians absent from the reservation on that date, August 8.

The conditions surrounding the Navajo Indian Reservation are a constant source of anxiety to the Indian Bureau, the Army, and the civil authorities of Arizona and New Mexico. There are 9,000 Najavo Indians living beyond the limits of the reservation set aside for them, where they have been living upon the unsurveyed lands for generations and claim these locations as their homes. They know nothing of the land laws and it is hard to make these people understand that they are tres-

passers outside of their reservation. In addition, they claim their people were in full possession of these lands before any white men were in this country; that they should have the same rights in the unsurveyed public lands as the white men. The white men deny this, claiming that the unsurveyed public lands are in spirit and fact for their use only, and the Indian having large tracts of land set aside for occupation and use, he should be driven back upon them and compelled to stay there. This last proposition seems reasonable and right to those who do not understand the situation and circumstances governing in this case. Those portions of the Navajo Reservation with which I am familiar consist of timbered mountains known as the Navajo Forest, high table lands, and sandy valleys, with but little living water upon the whole area. In the dry seasons this country presents a desolate appearance. The Navajo Indian is a nomad and has for his reservation the northeastern portion of Arizona, northwestern New Mexico and the strip of the Territory of Utah lying south of the San Juan River, containing in all 8,205,440 acres of land, or 12,821 square miles. They number 16,102, of whom 9,241 are living off the reservation, and together they own 9,188 head of cattle, 118,798 horses and 1,583,754 sheep, making this large tribe self-supporting. There is not sufficient water upon the present reservation to support these people, together with their large herds and flocks.

In order to assist this people and make it possible for them to withdraw to the lands allotted them I submitted to the Commissioner of Indian Affairs a plan to divide this large reservation into districts of proper size and numbers, having an officer of the Army with proper escort sent into each of these districts to make examinations with a view to establishing and maintaining a system of irrigation and developing a stock water supply sufficient for the Navajo Indians, together with suitable places for artesian wells, bore-wells to be worked by windmills, reservoir sites, or where springs, etc., may be developed.

These places are known to be limited in number and extent, but for all practical purposes it will be sufficient to report in detail upon all such localities, giving maps, drawings, etc. Such localities can be carefully marked upon the existing maps of the Geological Survey, which have been made with great care and labor and which represent the topography faithfully. This plan having met with the approval of the President, it is recommended that one party be charged with reporting upon all water flowing into the Little Colorado on the Navajo Reservation; also Chinlee Valley as far north as the mouth of the Cañon de Chelly. A second party should be assigned to that portion of the reservation east of the Cañon del Muerto and east of the Tunitcha, Lukachukai, and Carrizo mountains.

A third party should examine the northwestern portion of the reservation, including the remainder of the Chinlee Valley, the western slope of the Lukachukai and Carrizo mountains, and as far west as the boundary of the reservation. The San Juan River should be divided between the second and third parties. The officers in charge of these parties will be instructed to locate upon the map of the Geological Survey the points at which any work recommended is to be done. This work will be made in detail and as far as possible estimates be made of the amount of labor required for the work. In case it is reported that sufficient water for irrigation can be obtained, it is recommended that this plan be elaborated.

The above plan was suggested by me, first, in the interest of peace, for a conflict with the Navajoes, who are great in numbers and are

well armed, would be a serious business; second, for the welfare and prosperity of this most interesting people; third, to eliminate from the civil and military administration of the affairs of this tribe the constant anxiety existing, produced by large numbers of these people living off their reservation, and the friction made thereby with their white neighbors.

TARGET PRACTICE.

Instruction in target firing in this department has been carefully, faithfully, and honestly carried on. In some cases the duty has been irksome, owing to the transfer of troops and change of garrison, notably San Carlos, where it fell to the lot of troops of the Eleventh Infantry and First Cavalry to conduct their practice in the hottest months of the year, with other attendant disadvantages. The work, however, was cheerfully done and the interest maintained throughout. The annual competitions, department rifle and bidepartment (Texas and Arizona) carbine, have just been completed, and were smoothly and satisfactorily conducted. As the range heretofore used for the department competition is undesirable, it is strongly recommended that the rifle competitions be held at some point on this coast, thereby eliminating the circumstances of heat and glare characteristic of this department, as also stimulating the interest and making it an inducement for the best shots to strive for the position of competitor.

DRILL INSTRUCTION.

To carry out the provisions of General Orders No. 29, current series, from headquarters of the Army, Adjutant-General's Office (*vide* General Orders, No. 7, current series, from this office), up to date the troops from the following posts have either already gone into camp or have selected camps and are preparing to go.

Fort Bayard.—The camp selected is on Sapillo River, 28 miles north of post by wagon road. Troops will leave post about 15th or 20th of September.

Whipple Barracks.—Near Flagstaff since August 25, about 107 miles from the post.

Fort Wingate.—To go into camp about September 6. Owing to scarcity of water and lack of transportation this camp is within the 25-mile limit.

Fort Marcy.—In camp since August 15, at National Park, on Upper Pecos River, about 40 miles from post.

Before the end of the year all the troops of the department will have had at least twenty days in camp, with the instruction contemplated. The cavalry from the posts along the southern line of the department will go into camp in the vicinity of Fort Grant, Ariz., reaching that post on the 4th of November. No expense to the Government will occur, as strict orders have been given to use only the Government transportation and limited in every case to field allowance only.

INDIANS.

In this department the Indians are quiet except Kid, the renegade. They are supposed to be in a state of profound peace, but attention is invited to the tabular statements of expeditions and scouts made in this department during the present year ending August 31.

These expeditions were necessary, in some instances pursuing the renegade, in others scouting the cañons and mountains so that renegades would not have resting places.

It is recommended that the reservation once pertaining to the post of Fort Union be taken possession of by the Interior Department and disposed of according to law. It will not be necessary for military purposes. The buildings upon the same are now in the custody of a noncommissioned officer of the Army.

Should it have been definitely determined that the Yuma, Mojave, and Tonto Indians are to remain permanently at the San Carlos Agency, I would also recommend that the buildings and lands included in the military reservation of Fort Verde, Ariz., be also turned over to the Interior Department for proper disposition under the law.

During the past year the members of the department staff have performed their duties with industry and intelligence and to my entire satisfaction.

My personal staff have performed their duties with industry and intelligence.

Very respectfully, your obedient servant,

A. McD. McCook,
Brigadier-General Commanding.

The Adutant-General U. S. Army,
Washington, D. C.

REPORT OF BRIG. GEN. WHEATON.

Headquarters Department of Texas.
San Antonio, Tex., September 13, 1892.

General: I have the honor to submit, for the information of the Major-General Commanding the Army, the following annual report of military operations in the Department of Texas:

No change in the stations of troops has been made since, in compliance with General Orders, No. 11, dated Headquarters of the Army, May 4, 1892, I assumed command of this department.

The "Garza" troubles may be considered ended, though the frequent reports of the assembling of isolated small bands of revolutionists, with a view to violation of our neutrality laws by invading Mexican territory, has required the greatest activity of troops on our Rio Grande border. This service has been faithfully performed, under very trying circumstances, during the season of greatest heat, severely taxing the energies of troops and animals. The operations were conducted in desolate, barren regions, very sparsely if at all inhabited, where supplies of wood and water were scarce, and where the necessary food for animals was almost impossible to procure.

To prevent violators of neutrality laws from invading our neighbor, Mexico, the garrisons at our Rio Grande posts must be constantly on the alert to carry out the instructions of the Major-General Commanding, and I consider it important that some additions be made to the strength of these frontier posts, which has been inadequate since the force in this department was reduced in June, 1888, by the transfer elsewhere of the Eighth Cavalry. This regiment has never been replaced; when it is we shall be in better condition to satisfactorily protect an immense frontier of nearly 1,500 miles, now insufficiently guarded.

The invasion of Mexico by Catarino D. Garza and his band of revolutionists occurred on the 15th of September last, during the administration here of my predecessor. Reports of the movements of our troops were forwarded separately as they occurred. A summary of these operations follows:

In September, 1891, information was received at these headquarters from various sources that armed parties had crossed the Rio Grande, below Fort Ringgold, into Mexico, to attempt a revolution. Troops were sent out from the three posts on the lower Rio Grande, Forts Brown, McIntosh, and Ringgold, and instructed to scout the country up and down the river, and to arrest any armed parties found violating the neutrality laws. The troops did not encounter any of the revolutionists, but the scouting party sent out from Fort Ringgold ascertained that a body of men, about sixty in number, under command of Garza, had crossed the Rio Grande into Mexico on the night of September 15, and that the Mexican troops engaged with this body of revolutionists on September 16, routed them, and drove them back to this side.

Scouting parties were continually kept in the field searching for violators of the neutrality laws without any material result until December 21, when detachments from Troop C, Third Cavalry, and Company E, Eighteenth Infantry, from Fort Ringgold, met with a party of revolutionists at Retamal Springs. The officers present with the detachments were Capt. J. G. Bourke, Third Cavalry, commanding, and Second Lieut. C. E. Hays, Eighteenth Infantry. Skirmishes took place between the detachments and revolutionists on December 21 and 22, resulting in the scattering of the revolutionists. In the fight of December 22 Corp. Charles H. Edstrom, Troop C, Third Cavalry, was killed, and Second Lieut. Charles E. Hays, Eighteenth Infantry, and Private David Loyd, Troop C, Third Cavalry, were slightly wounded.

In the latter part of December Troops A, D, I, and K, Third Cavalry, were ordered from Fort Sam Houston for field service in the disturbed district. Troop A, First Lieut. W. D. Beach, Third Cavalry, commanding, and Second Lieut. W. C. Short, Sixth Cavalry, attached, and Troop D, Captain G. F. Chase, Third Cavalry, commanding, First Lieut. J. W. Heard, Third Cavalry, and Second Lieut. G. W. Cole, Seventh Cavalry, attached, were ordered to report to the commanding officer Fort Ringgold. Troop I, First Lieut. J. T. Knight, Third Cavalry, commanding, and Second Lieut. R. C. Williams, First Cavalry, attached, and Troop K, Capt. G. K. Hunter, Third Cavalry, commanding, First Lieut. J. T. Dickman, Third Cavalry, and Second Lieut. J. F. Madden, Fifth Infantry, attached, were ordered to report to the commanding officer Fort McIntosh. Lieut. Heard joined his troop in the field about the middle of January, having surrendered an unexpired portion of a leave of absence. Lieut. Dickman joined his troop in the field about February 3, having requested a relief from a detail as special regimental recruiting officer.

On December 29, Troops A and G, Third Cavalry, and a civil posse, encountered a party of revolutionists at the Rendado ranch, numbering about two hundred and commanded by Catarina E. Garza. The troops engaged this party, dispersed them, and captured one of the revolutionists. The officers present with these troops were: Troop A, First Lieut. W. D. Beach, Third Cavalry, and Second Lieut. W. C. Short, Sixth Cavalry, attached; Troop G, Capt. Francis Hardie, Third Cavalry, commanding.

The troops were in the field continuously during the winter until

withdrawn in the latter part of March. A continuous brief of their operations and the action taken at these headquarters during the campaign against the revolutionists was made and forwarded from time to time for the information of the Major-General Commanding the Army.

On the 14th of July last, I accepted the invitation of his excellency, Governor James S. Hogg, to visit Austin during the encampment there of the Texas State Guard.

Through the courtesy of the International and Great Northern Railroad, a battalion of the Twenty-third Infantry, Light Battery F, Third Artillery (Burbank's), and a squadron of the Third Cavalry, two troops, D and K, under Maj. L. T. Morris, Third Cavalry, were enabled, without cost for transportation to the Government, to attend the encampment referred to. The foot troops were moved by rail and the mounted troops marched to Austin, the entire force of regulars, under command of Col. J. J. Coppinger, Twenty-third Infantry.

The association of State troops and regulars here as elsewhere has, I consider, been most advantageous to both, and while daily visiting the several camps, generally with the governor, I was glad to note the constant improvement and progress of the State Guard, as also the deep interest taken by our officers and noncommissioned officers, who were detailed with the several State organizations to instruct and aid them in their drills, parades, ceremonies, and camp duties. Their efforts have been handsomely acknowledged by Governor Hogg and his adjutant-general who, with the other State, general, staff, and regimental officers, accorded to us all a cordial welcome and unbounded hospitality.

On the 25th of August I attended the department annual rifle competition at Fort Clark, on the Las Moras, and on the 26th presented the War Department medals to the successful competitors. The officers and soldiers displayed a satisfactory interest in this most important duty. The scores for this year are superior to those of last year, and the department statistics indicate a steady progress. When the new magazine rifle shall have been adopted and supplied I feel sure a further marked improvement will result.

Under the requirements of General Orders, No. 80, dated Headquarters of the Army, October 5, 1891, I submit with this a statement in detail of work accomplished in the several lyceums at posts in this department. Many of the papers prepared and read by officers at our post lyceums are of special interest and real value, and copies should be filed at regimental headquarters with their authors' records. The adoption by the War Department of some such arrangement would, I think, be a healthy stimulus, and urge to increased efforts officers who have already, by extensive reading and careful research, submitted at post lyceums most creditable essays on military subjects. These should not be lost to the service, as is now the case, and unless copies of such papers are preserved with other official records proper credit is not likely to be awarded to deserving authors.

Inviting attention to the reports of the judge-advocate of the department, submitted herewith, I am glad to report a steady decrease in the number of trials by general courts-martial and in the number of desertions.

Some eleven years ago, when called upon as a department commander to suggest the best remedy or means to prevent the evil of desertion, I then suggested remedial measures and have since had no occasion to change the views then held. We must give the soldier, as we give the officer, something to live for—something to look forward to and hope for—"promotion," with its accompanying advantages of

increased pay. If our first sergeants received at least $40 instead of $20 per month, intelligent young men of character would strive for such positions. The pay of duty sergeants and corporals should be measurably increased, and the ranks of our companies would be always full of the best material. With this change in our laws, and $100 reward given for any convicted deserter, I believe desertions in our Army would be reduced to the minimum.

The reports of the department inspector show the garrisons to be in a very satisfactory condition of discipline and efficiency. Our Army is conceded to be of good material, well fed, well clothed, well paid, and soon to be well armed, but the proper development of its physical condition will never approach that obtained in other armies until every post has its gymnasium and physical training ground. I can conceive of no more important suggestion to the Major-General Commanding than to ask his recommendation that these be ordered and constructed at an early date. Gymnastic training would vary the tedious monotony of drills and exercises that, when once learned by the recruit, can not always retain his interest; if one-half the time now devoted to company drill could be given to gymnastic instruction, our soldiers would not only be better prepared physically for service in the field, but the discontent, a frequent cause of desertion, that more or less pervades our ranks, could be greatly lessened, if not ultimately removed. England and France have followed Germany in the matter of physical training of troops, and in striving for a perfection earnestly desired by our officers and soldiers we should not, in this most important instruction, remain too far behind them all.

Attention is invited to the accompanying detailed reports* of the department staff, whose duties have been most satisfactorily performed; they are as follows:

Lieut. Col. James P. Martin, assistant adjutant-general.
Maj. Peter D. Vroom, inspector-general.
Capt. Harvey C. Carbaugh, acting judge-advocate.
Lieut. Col. George B. Dandy, chief quartermaster.
Capt. Wells Willard, chief commissary of subsistence.
Maj. Calvin DeWitt, surgeon, acting medical director.
Lieut. Col. Charles M. Terrell, chief paymaster.
Maj. Clarence E. Dutton, chief ordnance officer.

The report of First Lieut. John E. Myers, Third Artillery, inspector of small arms practice of the department, will be forwarded in due time.

First Lieut. John S. Mallory, Second Infantry, aide-de-camp, has performed the duties which have been assigned him with zeal and industry.

Very respectfully,

FRANK WHEATON,
Brigadier-General, Commanding.

The ADJUTANT-GENERAL, U. S. ARMY,
Washington, D. C.

*Omitted.

REPORT OF THE COMMANDANT OF THE U. S. CAVALRY AND LIGHT ARTILLERY SCHOOL.

FORT RILEY, KANS., *September 12, 1892.*

SIR: I have the honor to submit my annual report of the progress and wants of this school. The troops serving here and composing the school consist of eight troops of cavalry, namely: A, B, C, D, E, G, I, and K, Seventh Cavalry, and three batteries of light artillery, namely: A and F of the Second and F of the Fourth Artillery. The cavalry is divided into two squadrons of four troops each, under the command of Majs. S. M. Whitside and T. A. Baldwin, Seventh Cavalry. The artillery is organized into a battalion under the command of Maj. W. F. Randolph, Third Artillery. The above-mentioned officers and myself compose the school staff provided for in the third paragraph of General Orders No. 17, Adjutant-General's Office, current series, with First Lieut. J. F. Bell, adjutant Seventh Cavalry, as secretary.

There are also situated at the post two minor schools of instruction, consisting of a company of instruction of the hospital corps under command of Maj. John Van R. Hoff, surgeon U. S. Army, and of a detachment of instruction of the Signal Corps, commanded by First Lieut. J. E. Maxfield, Signal Corps. Both these schools are ably and admirably conducted, and the men instructed in them will form exceedingly valuable adjuncts in the carrying out of the combined operations of cavalry and light artillery.

At about the time the order (above mentioned) establishing this school arrived, the troops here were busily engaged upon the new drill regulations of their respective arms, just received. Maj. Whitside was absent on leave of absence and Maj. E. B. Williston, Third Artillery, the then commanding officer of the light artillery battalion, had been ordered relieved (by Special Orders, No. 75, Adjutant-General's Office, current series), but his successor had not been designated. It was therefore impracticable to convene the school staff as required by paragraph 9, General Orders, No. 17, to prepare a scheme of instruction, and it was concluded best to continue, without a set scheme, the instruction (already begun) which is required by paragraph 7 of this order which establishes the school.

This conclusion was also based upon the fact that I was at that time, from a lack of knowledge of the new drill regulations, unable to determine how much time would be required for the proper instruction of my command in the different parts thereof, when taken in connection with other demands upon it. The wisdom of this conclusion has been confirmed by results. Maj. Randolph joined this command June 11, 1892, and consequently had barely time to make himself acquainted with the status of affairs when two other members of the school staff were ordered detached on court-martial duty and continue absent thereon. Thus it may be seen that it might not only have been impracticable to adhere to any scheme determined upon by the staff, but it was actually not possible for the staff to intelligently formulate one. Upon this account and in order to better comply with the requirements of General Orders, No. 29, Adjutant-General's Office, current series, received during April, it was determined to continue with the separate instruction of each arm "in the special duties of its own arm," without

attempting to prepare a scheme for combined operations until later in the year, when more knowledge had been gained as to the time necessary to complete the different portions of said instruction, and until the school staff could be convened with a full attendance.

It is intended when the absent majors return to formulate a scheme as soon as practicable which will be submitted in a supplementary report. Though assiduous efforts have been made the cavalry command has not yet succeeded in covering the entire scope of the drill regulations, regimental and brigade drill, a few of the ceremonies and packing, not having yet received attention. Instruction in these subjects will be given this fall.

The riding hall having been completed, drilling therein began with the coming of cold weather last fall, and continued throughout the winter until spring arrived with weather suitable for outdoor drilling. The drill was according to the new regulations, obtained from a few advance sheets and from the files of the Cavalry Journal. Since the coming of fair weather there have been daily drills (Saturdays and Sundays always excepted), which occupied the entire forenoon, two hours and a half mounted and one hour dismounted, with a daily recitation for noncommissioned officers intervening.

Since the receipt of General Orders, No. 29, Adjutant-General's Office, current series, all military duties have been concentrated into the forenoon, the afternoon being set aside for other work. This plan has been found to work well. The only exception made is when the weather is falling and the drill must take place in the hall, which accommodates but one troop at a time. It is then necessary to have one squadron drill in the forenoon, the other in the afternoon, the drill extending from 7 a. m. to 5 p. m.

During the winter and early spring there was had for officers and men theoretical instruction in the drill regulations, signaling, cavalry outposts, advance and rear guards, reconnoissance, etc., guard manual, small-arms firing regulations, preliminary drills therein, and gallery practice, besides the writing of essays upon military subjects by officers. Lyceums and post schools were conducted in accordance with existing orders. The veterinary surgeon has given lectures and practical instruction to farriers and blacksmiths. Instruction of troop litter-bearers has continued weekly throughout the year. Practical instruction in signaling was imparted to both officers and men by the signal officer on duty here. The cavalry troops went into camp, one squadron at a time, for instruction in target practice. Each squadron was detached from the post while in camp and had no other duties but to conduct the annual practice. Such time as could not, on account of unfavorable weather, be profitably employed in shooting was devoted to instruction in the new drill regulations. Instruction in this target camp continued from May 1, to July 23. Much practical knowledge and valuable training for field service is gained in these camps, aside from the advantages they afford for conducting the annual target practice.

Before proceeding to any recommendations concerning the wants of the school some remarks may be very appropriately made touching certain conditions now existing which must necessarily have a marked influence upon it and upon which its wants are based.

In a scheme of organization formerly submitted by me, now doubtless on file in the office of the Adjutant-General, it will be found that I suggested the cavalry subschool should consist of twelve troops, not more than two of which were to be of the same regiment; that the com-

mandant of the school be a colonel of cavalry, selected and detached from his regiment; and that the secretary be specially detailed from the cavalry arm for this duty.

The order prescribing the organization of the school requires the cavalry portion to "consist of one regiment of cavalry (as nearly as practicable)", whose colonel is to be commandant and its adjutant secretary. It is therefore assumed that, of course, one of the regularly organized cavalry regiments now existing is meant, and that, were its field officers all present on duty with it, the lieutenant-colonel would naturally become the director of the subschool of cavalry, while its squadrons would fall to the command of its majors.

The concentration of an entire regiment into one command would be of great and undoubted value to its esprit and personnel were its instruction and discipline properly pushed and persevered in, but to so locate one regiment, when all others must be more or less widely scattered, seems hardly a fair apportionment of opportunity for improvement, since it would be many years before all regiments in the service could thus obtain any advantage from the school.

Further than this, it is also assumed that the primary object sought in establishing this school was not so much to directly benefit one regiment at a time as to secure a successful and permanent establishment of a school where facilities might be furnished for keeping pace with the military advancement of the time and where every apparent advance in the art of war as applied to mounted troops might be given a practical test, whose results could be published and discussed for the benefit of all.

Upon these assumptions the following remarks and suggestions are based.

To have the cavalry portion of the school consist of a regiment appears to me subject to the following objections:

When the regiment changes station, as in time it must, all officers and men well acquainted with the methods and details of conducting the school depart with it. The regiment succeeding to the duty must begin *de novo*, and without experienced assistance or trained example work out its own salvation. Each regiment, pursuing its own ideas, would hardly get a system established before being replaced by another with different ideas and systems. It is scarcely possible, under these conditions, to ever succeed in securing the establishment of a continuous, permanent school of instruction.

The troops of the departing regiment being seldom stationed at the same post with those of other regiments, the training received in the school would not result in the advantage of becoming a possible leaven for other organizations.

The colonel, the lieutenant-colonel, the majors, or the adjutant might be unsuited to the duties which would fall to their lot, for although the order permits the assignment of "other" officers to duty at the school, it is not thought probable that any of the above-mentioned officers would in this manner be supplanted and deprived of duties naturally theirs by existing orders. Even though entirely unfitted therefor, it would be of questionable benefit to the service and ruinous to regimental esprit to thus supplant them in their duties.

Attainments and qualities of a particular kind are essential to make a good and successful commandant or secretary of a young and unformed school. Not every really good regimental adjutant possesses those requisite for the latter position, and even if he did he could not, at this post, sufficiently perform the duties of regimental adjutant, sec-

retary, and also those of post adjutant, including the appurtenances in the way of duty now usually attached to that position.

It would become necessary to select a post adjutant, while it would surely be of much greater importance to select an officer to perform the duties of secretary of the school.

Though gratified that so much of the plan of organization formerly submitted by me has been incorporated into the order of establishment, I am so convinced that the regimental organization is not best adapted to promote the interests of the school, if it be desired to put it on a permanent basis, that I will again venture another suggestion, less radical in its departure from the present plan than my former one, for composing the personnel of the subschool of cavalry, as follows:

Let it consist of three regularly organized squadrons, of four troops each, from three different regiments. Keep these squadrons supplied at all times, by detail if necessary, with a full complement of officers from their own regiments. Let the detail of each squadron extend through three years, one squadron only being changed each year. In this manner there will always be at the school two squadrons well acquainted with the methods and plan of instruction, by whose example the newly arriving could profit. Select the commanding officer, the secretary, and the director of the subschool of cavalry from the colonels, the first lieutenants, and the lieutenant-colonels, respectively, of the cavalry service, irrespective of the regiments represented at the time in the school. If they can be obtained from regiments not so represented, so much the better.

Under these conditions regimental commanders would be enabled to select from their regiments those officers and troops best suited to profit by instruction in the school. The squadron esprit and competition naturally arising would result in great advantage to the school.

In twelve years' time at least one squadron from each regiment now in the service would have had an opportunity to profit from the school, and the instruction of these squadrons, continually returning to their regiments, should certainly exert some influence for good upon the rest.

Should this plan be adopted it would become necessary to provide the four cavalry stables, two field officers' quarters, five double sets of officers' quarters, and the general mess and quarters for single officers as contemplated in the plan of the post. Separate plans for all these buildings have already been approved and are, presumably, now on file in the office of the Quartermaster-General.

Considering the school as it now exists, I would respectfully submit the following remarks and recommendations:

The school year should begin January 10 and end December 20, leaving a short vacation between for the preparation of reports, etc.

The order requires one-half of the year to be devoted to combined maneuvers, leaving only one-half to separate instruction. Considering the amount of time annually required for target practice—a part of the separate instruction of each arm—the balance of six months left is totally inadequate for efficient and thorough instruction in the "special duties of each arm." It is certainly unreasonable to expect successful work in combination unless the factors of the combination have been well instructed separately. It is therefore my opinion that at least nine months of the year should be assigned to separate instruction, the other three being devoted to problems for the two arms and combined maneuvers dependent thereon.

Two of the eight troops stationed here are under orders for Fort Sheridan and but one is ordered here in their stead. There will be

ample facilities left for the accommodation of another troop, and it is recommended that another be sent from somewhere in order that each squadron may consist of four troops, which is the squadron organization best suited to convenient instruction and to the needs of the school.

It is recommended that another cavalry field officer be ordered here, preferably a lieutenant-colonel, to act as director of the subschool of cavalry. There are at present but two field officers here, majors, and each being in command of a squadron it is not considered to be for the best interest of the school that any officer should, besides commanding his own squadron, also act as director of the subschool, and thereby possess a supervisory control over the other squadron.

Whenever it shall become necessary or proper to relieve the troops now stationed here it is recommended that they be relieved, the cavalry one squadron, and the artillery one battery, at a time, so that the troops succeeding them may not be entirely unfamiliar with the work of the school without experienced assistance to aid in mastering methods and details.

There should be a full complement of officers and men on duty with the troops at all times. It seems to me hardly necessary to produce any argument on this subject. Already, according to regulations and special authority, the batteries stationed here will have always with them not only a full complement of officers, but are allowed to keep constantly on hand a supply of recruits over and above their maximum allowance in order to guard against falling below this maximum strength. Discriminations, not necessitated by differing conditions, in favor of either subschool can not be for the best interest of the whole. Since it is apparently impracticable to keep the troops stationed here full of officers from their own regiment it is recommended that a sufficient number of young officers (preferably unmarried ones on account of shortage of officers' quarters) to fill the troops be ordered for duty here from other regiments. During the current year so many officers whose troops are here have been on detached service, permanently away on detail and ordered away temporarily, that frequently troops have been left entirely without officers and several times there has been only one officer to a troop available for duty. Both majors are now, at a time of the year when their squadrons most need their attention, absent on court-martial duty.

It is a significant fact that at scarcely any time since the order establishing the school has been published have all the officers composing the school staff, as specified in that order, been available for duty in connection therewith.

It is probable that the Government has no military reservation with a greater variety in its physical features or better adapted by nature to the needs of problems and military maneuvers than is this one. No better place could be found to assemble contiguous garrisons for fall maneuvers, in accordance with the suggestion contained in General Orders, No. 29, Adjutant-General's Office, current series, than this post, but in order to make it possible to plan these problems and maneuvers on paper, and to facilitate their execution, it is absolutely necessary to have made an accurate topographical map of the reservation. It is strongly recommended that a suitable person be sent here to make such a map and that it be then published.

The Fort Monroe and Fort Leavenworth schools each receive a special appropriation from Congress with which to provide such necessities as can not be obtained from the supply departments. A like appropriation is equally needed here. A necessity of the above kind is a good

printing plant. Progress in all instruction at the school has been exceedingly satisfactory and gratifying. Great credit is due all officers of this command, cavalry, artillery, and staff, for cheerful and close attention to their duties, for the great interest manifested in them, and for intelligent coöperation in every effort to secure efficient instruction and correct drill. No commanding officer could ask or expect more satisfactory assistance from, or better, subordinates.

In conclusion I have only to invite attention to the report* of the director of the subschool of light artillery, hereto appended. I concur in all the recommendations made therein.

Very respectfully, your obedient servant,

JAMES W. FORSYTH,
Colonel Seventh Cavalry, Commandant.

The ADJUTANT-GENERAL U. S. ARMY,
Washington, D. C.

REPORT OF THE COMMANDANT OF THE U. S. INFANTRY AND CAVALRY SCHOOL.

FORT LEAVENWORTH, KANS., *August 1, 1892.*

GENERAL: I have the honor to submit the annual report of the United States Infantry and Cavalry School for the first school year commencing September 1, 1891, and ending May 31, 1892.

The student class as such reported for duty at the school September 1, 1891, and was composed of the following named officers:

2d Lieut. Henry A. Barber, 1st Cav.
2d Lieut. P. D. Lochridge, 2d Cav.
2d Lieut. Malvern-Hill Barnum, 3d Cav.
2d Lieut. Michael M. McNamee, 3d Cav.
2d Lieut. Thomas H. Slavens, 4th Cav.
2d Lieut. Stephen H. Elliott, 5th Cav.
2d Lieut. Francis H. Beach, 6th Cav.
2d Lieut. William F. Clark, 7th Cav.
2d Lieut. Charles C. Walcutt, jr., 8th Cav.
1st Lieut. Montgomery D. Parker, 9th Cav.
2d Lieut. Alexander L. Dade, 10th Cav.
1st Lieut. Nat. P. Phister, 1st Infy.
1st Lieut. Henry H. Benham, 2d Infy.
2d Lieut. Frank G. Kalk, 3d Infy.
2d Lieut. Austin H. Brown, 4th Infy.
2d Lieut. Robert W. Rose, 5th Infy.
2d Lieut. William C. Bennett, 6th Infy.
2d Lieut. Frederick H. Sargent, 7th Infy.
2d Lieut. George W. Ruthers, 8th Infy.
2d Lieut. William A. Campbell, 9th Infy.
2d Lieut. John M. Sigworth, 10th Infy.
2d Lieut. Charles Miller, 11th Infy.
2d Lieut. Benjamin A. Poore, 12th Infy.
2d Lieut. Michael J. O'Brien, 13th Infy.
2d Lieut. James E. Dodge, 14th Infy.
2d Lieut. Harold L. Jackson, 15th Infy.
2d Lieut. James T. Anderson, 16th Infy.
2d Lieut. Frederick S. Wild, 17th Infy.
2d Lieut. George W. Martin, 18th Infy.
2d Lieut. Arthur B. Foster, 19th Infy.
2d Lieut. Archibald A. Cabaniss. 20th Infy.
2d Lieut. Almon L. Parmerter, 21st Infy.
2d Lieut. William M. Swaine, 22d Infy.
2d Lieut. Charles B. Hagadorn, 23d Infy.
2d Lieut. Charles E. Tayman, 24th Infy.
2d Lieut. Thomas H. McGuire, 25th Infy.

On January 9, 1891, I made application to the Adjutant-General that all officers of the incoming student class who had been appointed from civil life or who had been promoted from the ranks and who had not studied the subjects of algebra, geometry, and trigonometry, might be ordered to report at school on March 1, 1891.

The object was to impart instruction in those branches from March 1 to September 1, so that they might enter upon the regular course on more equal terms with the other members of the class. In response to this application the Major-General Commanding the Army was pleased

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* Omitted.

to order the following-named officers to report for such preliminary instructions on that date, viz:

1st Lieut. Charles B. Thompson, 5th Inf.	2d Lieut. Henry A. Barber, 1st Cav.
2d Lieut. George W. Ruthers, 8th Inf.	2d Lieut. John M. Sigworth, 10th Inf.
2d Lieut. Archibald A. Cabaniss, 20th Inf.	2d Lieut. Frederick S. Wild, 17th Inf.
2d Lieut. Charles E. Tayman, 24th Inf.	

The following-named officers reported for preliminary instruction in mathematics on the dates set opposite their names: Second Lieut. William C. Bennett, Sixth Infantry, August 1, 1891; Second Lieut. Thomas H. McGuire, Twenty-fifth Infantry, August 16, 1891. Of these officers, First Lieut. (now captain and assistant quartermaster) Charles B. Thompson, Fifth Infantry, was relieved from duty at the school July 8, 1891, and another officer, Second Lieut. Robert W. Rose, Fifth Infantry, was selected to represent his regiment.

In consequence of numerous changes in the original detail, a number of officers who would undoubtedly have been selected to take the preliminary course, and who would have been greatly benefited thereby, were detailed so late in the year as to preclude any opportunity to avail themselves of this advantage.

The result of the experiment has been most encouraging. Not one of the officers selected for preliminary instruction in mathematics has been found deficient in the studies dependent thereon, while several, who labored under the same disadvantages and who did not receive their orders sufficiently early, but reported September 1, have not been so fortunate. I am convinced that this preliminary instruction should be continued at least until every officer who is appointed to the Army is required to pass such an examination in those subjects that will enable him to take up at once the school course, should he be selected as a student officer.

I am also of the opinion that January 1 is preferable to March 1, and would, therefore, recommend, if considered practicable, that that date be selected.

Herewith inclosed are indorsements on circular letters* (marked Appendices A and B) sent by the secretary of the school to a number of officers of the class, especially those taking the preliminary course, asking an expression of opinion as to its value to them. Their views, indorsed upon the letter, clearly indicate the great success of the experiment and fully warrant its continuance.

Upon the assembling of the class, September 15, 1891, one member thereof was found to be absent therefrom without leave, viz, Second Lieut. James E. Dodge, Fourteenth Infantry. This officer had reported to me some days previously, and upon September 12 applied for two days' leave of absence to go to St. Louis, Mo. He did not return at the expiration of his leave of absence, and nothing was heard of him until it was reported in the newspapers that he had been arrested in Hannibal, Mo., under an assumed name for being concerned in a criminal action. He was identified by an officer sent from Fort Leavenworth, and remained in the custody of the civil authorities until March 18, 1892, when he was brought to this post to be tried by general court-martial. He has been so tried and is now awaiting the promulgation of the findings and sentence in his case. In the meantime another officer, Second Lieut. E. T. Winston, was detailed from the Fourteenth Infantry in his place, and Lieut. Dodge has taken no part whatever in the school course. Lieut. Winston reported October 22, 1891, and has continued with the class since that time.

* Omitted.

Since September 1, 1891, the following-named student officers have been relieved from further duty as such and assigned elsewhere: First Lieut. Austin H. Brown, Fourth Infantry, January 27, 1892, having been detailed as assistant instructor in drawing at the United States Military Academy, West Point, N. Y.; First Lieut. Montgomery D. Parker, Ninth Cavalry, February 16, 1892, being unable to proceed with the class on account of serious affection of the eyes; Second Lieut. Thomas H. McGuire, Twenty-fifth Infantry, March 29, 1892, on account of continued ill-health which would entirely prevent him from continuing the course of study.

In regard to the first-named case I would respectfully state that the separation of a student officer from the school after he has commenced the course should not occur, except on account of unavoidable circumstances. I have reason to believe however that the order in this case was issued under a misapprehension, and that it is not likely to occur again.

During the month of January, 1892, the semiannual examination of the student class took place in the studies pursued since September 1, 1891, viz: Military Art (Shaw's Elements of Modern Tactics); Engineering (Johnson's Surveying); Law (Constitutional Law).

The following-named officers were declared deficient by the school staff in the subjects set opposite their names: Second Lieut. T. H. McGuire, Twenty-fifth Infantry, in military art and engineering; Second Lieut. George W. Martin, Eighteenth Infantry, in military art and engineering; Second Lieut. E. T. Winston, Fourteenth Infantry, in military art; Second Lieut. Harold L. Jackson, Fifteenth Infantry, in military art; Second Lieut. John M. Sigworth, Tenth Infantry, in military art. They were reëxamined twenty days thereafter, in accordance with paragraph 48, school regulations, and declared proficient.

The annual examination took place in the month of June, and the following officers were declared deficient by the school staff in the subjects set opposite their names, respectively: Second Lieut. G. W. Martin, Eighteenth Infantry, in military art (Home's Précis of Modern Tactics) and engineering (Richard's Military Topography); Second Lieut. H. L. Jackson, Fifteenth Infantry, in military art (Home's Précis of Modern Tactics); Second Lieut. W. A. Campbell, Ninth Infantry, in military art (Home's Précis of Modern Tactics); Second Lieut. J. M. Sigworth, Tenth Infantry, in military art (Home's Précis of Modern Tactics). They were also reëxamined twenty days thereafter, and the following-named officers were again by the school staff declared deficient: Second Lieut. George W. Martin, Eighteenth Infantry, and Second Lieut. Harold L. Jackson, Fifteenth Infantry.

In accordance with paragraph 48 a special report of the action of the school staff in these cases has been submitted for the action of the Major-General Commanding the Army.

During the school year the course of study as laid down in the school regulations has been closely adhered to, and in addition the new drill regulations have been included. This was made necessary by their adoption since the advent of the class. It is presumed that succeeding classes will be fully instructed therein before coming to the school, when, of course, the recitations in this subject will form no part of the curriculum, at least up to and including the school of the battalion.

The following is a synopsis of the work in the different departments, the details of which will be found in the reports* of the heads thereof, herewith inclosed.

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*Omitted.

DEPARTMENT OF MILITARY ART.

This department has been continuously under the charge of Lieut. Col. Jacob Kline, Ninth Infantry The course as carried out has been eminently satisfactory both to instructors and students, as also to the commandant. I can not too highly commend the ability and zeal of Col. Kline and his assistants in so thoroughly carrying out my wishes in this direction. In regard to the officers found deficient in this course and in the course of engineering upon reëxamination, a special report has been made as required and more particularly referred to in a previous part of this report. The recommendations of Col. Kline are substantially concurred in by me, but should be fully considered by the full staff before being adopted.

Capt. A. L. Wagner, Sixth Infantry, one of the assistant instructors of this department is now at Cumberland, Md., by authority of the War Department, engaged in preparing a work on the subject of "Minor Tactics," for the use of the school and Army. It is hoped that this will be ready to put in the hands of the next class. Capt. G. S. Wilson, Twelfth Infantry, has been acting in place of Capt. Wagner, and together with Lieuts. W. A. Shunk, Eighth Cavalry, and Charles H. Barth, Twelfth Infantry, have been the assistant instructors in this department.

DEPARTMENT OF INFANTRY.

This department, also under the charge of Lieut. Col. Jacob Kline, Ninth Infantry, has had for assistant instructors Capt. George S. Wilson, Twelfth Infantry; Capt. John F. Stretch, Tenth Infantry, and Capt. James Fornance, Thirteenth Infantry

Since January the course of instruction has been confined to the new drill regulations for officers belonging to that arm. Satisfactory progress has been made therein. Practical exercises, it is expected, will take place therein during this summer.

DEPARTMENT OF CAVALRY.

This department has been in charge of Maj Camillo C. C. Carr, Eighth Cavalry, since the departure of Lieut. Col. G. B. Sanford, Ninth Cavalry, August 11, 1891.

The course of studies has been by lectures by Dr. Hunter, veterinary surgeon, and recitations in the section room in hippology and the new cavalry drill regulations. To this has been added practical work in the field The progress in this Department has been satisfactory in the highest degree and reflects the greatest credit upon the instructor in charge. The assistants in this Department have been: Capt. Francis Moore, Ninth Cavalry; Capt. John B. Babcock, Fifth Cavalry, and Capt. Samuel M. Swigert, Second Cavalry, who have thoroughly devoted themselves to their duties.

I fully concur in the recommendations of Maj. Carr with regard to the "papier-mâché horse," and if it is not required at the United States Military Academy it would be of great use here and I would be very glad to have it.

DEPARTMENT OF ENGINEERING.

This department was in charge of First Lieut. H. L. Ripley, Third Cavalry, as instructor, from September 1, 1891, to March 1, 1892, when,

at his own request, he was relieved from that duty and returned to his regiment. During the time Lieut. Ripley was at the head of the department it was conducted to my entire satisfaction, and it was with much regret that I saw him depart.

First Lieut. W. D. Beach, Third Cavalry, was detailed in place of Lieut. Ripley and has had charge since March 1, 1892. I am much gratified at the progress of the class in this department, which is entirely due to the ability of the instructor and his assistants.

A building for the use of this department is very much needed. There are no proper facilities for a drawing academy or rooms for well carrying out the course in photography. There is no suitable room for the care of the instruments required in this department, which are very valuable and delicate. I would request that the building at the post and now used as a depot commissary storehouse may be turned over to me to be used as above indicated. It is admirably situated for the purpose and could be very easily adapted for any school use.

A depot commissary is not required here any more than at any other military post. He was left here when department headquarters moved to St. Louis. It is understood that the present depot commissary, Maj. S. T. Cushing, C. S., expects to be ordered to another post in course of a few months, and in such event I would request that the depot be abandoned and the buildings turned over to the post.

DEPARTMENT OF LAW.

This department has been in the continuous charge of Capt. J. M. J. Sanno, Seventh Infantry, during the past year.

Constitutional law was studied previous to January, 1892, and international law between January and June. During the coming year the course of military law will be taken up, so that the law course will be completed as required by the school regulations.

In this course, First Lieut. R. K. Evans, Twelfth Infantry, First Lieut. E. P. Andrus, Fifth Cavalry, and First Lieut. Thomas Cruse, Sixth Cavalry, were the assistant instructors. Lieut. Evans having been detailed as military attaché to the United States legation at Berlin, Germany, has been relieved. First Lieut. C. W. Penrose, Eleventh Infantry, having been ordered to duty at the school, will be assigned to this department for the coming year's course.

DEPARTMENT OF MILITARY HYGIENE.

The course of instruction in this department, under charge of Maj. John Brooke, M. D, post surgeon, during the past year, has been quite brief, the important part thereof taking place during the second year. I anticipate a greater development than heretofore in this very important part of the school course.

DEPARTMENT OF ARTILLERY.

It is much to be regretted that there will be no course in artillery for the present class.

Last fall, on account of scarcity of quarters, the light battery stationed at this post was ordered to Fort Riley, Kans. It was understood at the time that this move was but temporary, that in due time new quarters would be built for the battery, and that one would be then returned to this post for station. In the meantime, that the battery

would march from Fort Riley to this post, so as to be here by August 1, when the usual course of instruction of the student class in that department could take place. I have been informed, however, that this is not to be done, and therefore the instruction in that department will of necessity be omitted. I had hoped to considerably enlarge the course in this department by adding to it some instruction in high explosives. Any infantry or cavalry officer is liable to be sent off with a detachment to blow up a bridge, destroy buildings, etc. He should know how to use the means placed at his disposal for that purpose. He should well understand their condition as to stability and means of destroying them should they appear to have become unstable and dangerous.

Again, it is highly valuable to have a battery here in order that it may be used in the general maneuvers of the troops in which the student class is required to take part. The tactical combination of the three arms is a valuable object lesson to all officers, and especially to the young officers at this school, probably the only place in this country where such instructions can be obtained.

In view of all this I earnestly request that steps be taken to return a battery to the school, and that quarters, stables, etc., be erected for them.

Immediately after the establishment of the system of post lyceums last November the secretary of the school began receiving many requests for text books and other military works. This has continued until the present time, the amount disbursed for such professional literature being over $4,000.

The erection of a large building, sufficient to accommodate 24 unmarried officers, was begun last fall. Owing to inclement weather work ceased during the winter. It is expected that it will be ready for occupancy before cold weather sets in, when the old barrack buildings, known as McPherson and Thomas halls, as well as the old hospital, known as Hancock hall, may be entirely abandoned. They have become more and more unsanitary, and in some parts of the buildings it is unsafe for persons to live. They should be torn down and new quarters erected in their place.

It gives me great pleasure to call the special attention of the War Department to the ability and attention to duty shown by First Lieut. W. S. Scott, First Cavalry, secretary of the school, who has devoted all his energies to insure its success.

Very respectfully, your obedient servant,

E. F. TOWNSEND,
Colonel Twelfth Infantry, Commandant.

The ADJUTANT-GENERAL U. S. ARMY,
Washington, D. C.

REPORT OF THE COMMANDANT OF THE U. S. ARTILLERY SCHOOL.

UNITED STATES ARTILLERY SCHOOL,
Fort Monroe, Va., September 1, 1892.

SIR: I have the honor to submit for the information of the Major-General Commanding the Army the following report of the United States Artillery School and post of Fort Monroe, for the year ending September 1, 1892:

This period embraced courses of instruction in steam and mechanism, ballistic machines, chemistry and explosives, electricity and mines, military hygiene, military science, the noncommissioned officers' school, and practical military exercises.

STEAM AND MECHANISM.

The object of this course is to impart elementary instruction on the theory of the steam engine, boilers, the principles of mechanism and the transmission of power, and the nature and properties of steam as the source of power. Instruction was given by text-books, lectures, plates, and by object lessons in the nomenclature, nature and use of parts, as exemplified in such mechanisms as the department is provided with. Through the persevering efforts of the instructor, this department, which is new in the school, has been very well equipped for efficient instruction, and the course proved to be one of much interest and profit to the class.

BALLISTIC MACHINES.

Instruction in the use of modern chronographs and the numerical calculations pertaining thereto was given during the afternoons in November, students attending in groups of four at a time. The Boulengé chronograph No. 111 and the Breger-Boulenger chronograph No. 25 were used together, about 300 velocities being taken. While the agreement between the two instruments was fairly good, the instructor expresses the opinion that the latter instrument is decidedly superior to the former, both as to results and the liability to get out of adjustment.

CHEMISTRY AND EXPLOSIVES.

As stated in a former report, instruction in chemistry and explosives and in electricity and mines is carried on simultaneously, the class being divided into two sections for that purpose; the sections alternating in attendance between the two departments. This is considered a disadvantage, but has been necessitated by the want of sufficient apparatus for the instruction of the entire class at once, especially in the department of electricity and mines.

In the course of chemistry and explosives, each student officer made, tested, and analyzed one or more of the various explosives of each class, from the ordinary gunpowder mixture to the most sensitive nitroglycerin compound, particular attention being given to those explosives which are adapted to military purposes, and especially to the service tests to determine their condition as to stability, etc. In addition to laboratory work, instruction was given in the use of larger quan-

tities of explosives in demolitions, cutting down trees and palisades, the destruction of iron and wooden beams, iron plates, railway tracks, masonry, walls, etc. Experiments were also made to determine the sensibility of various explosives to the impact of the service bullet, the effect of confinement, and their liability to "sympathetic explosions."

ELECTRICITY AND MINES.

The expensive nature of the apparatus required for thorough instruction in electricity has made it impossible to adequately equip this department from the small annual artillery school appropriation, and unless some of the more expensive items can be supplied from other sources the department must remain unprovided with them. Much, however, has been added during the past two years, among which may be mentioned a 200-light Edison dynamo, a 300-light alternating current machine, a Weston volt-meter, and about 100 lamps. The methods pursued and the ground covered were about the same as heretofore described, with the addition of the use of such new machines and instruments as have since been added, the object being to make the course thoroughly practical. The subject is one of increasing importance to the artillery and was pursued by the class with great interest.

MILITARY HYGIENE.

Commencing April 8, a course of six lectures on military hygiene was given to the class by Maj. R. S. Vickery, post surgeon. These lectures embraced a general outline of anatomy, physiology, first aid to the wounded and injured, including ambulance and field service and action in emergencies; also preventable camp diseases and the best mode of guarding against them. They were illustrated by skeleton and plates, by exhibiting the dressings to be used in case of injury and showing their application. A lecture on microbes and bacteria and the germ origin of diseases was also given by Maj. John S. Billings, surgeon, U. S. Army. These lectures were interesting and instructive and elicited the earnest attention of the class. The afternoons given to them were taken from those allotted by the programme to drills, and for a short course like the above this can be done without serious detriment to the courses as now arranged; but a more extended course can not be provided for without omitting some of the subjects now prescribed, and for which the school was originally designed and especially equipped. An extension of this course is not therefore recommended.

MILITARY SCIENCE.

This subject was taken up March 15 and occupied the time until the end of the term, June 20. The methods employed were recitation and discussions with the use of maps and blackboards. The text-books used were supplemented by the notes of the instructor, drawn from the most recent authorities. The campaigns of Napoleon, of our own civil war, the war of 1866, and the Franco-Prussian war were studied, and also the principles involved in the organization, mobilization, and concentration of armies and their tactical employment. It was my intention to have some practice in the duties of advanced guards and outposts, but the country about here, beside being flat and soft in rainy weather, is intersected by numerous wire fences, which will generally make this kind of work impracticable without going to a considerable distance from the post.

DIVISION FOR ENLISTED MEN.

In this school noncommissioned officers and selected privates of the instruction batteries are given thorough practical knowledge and training in the use of all machines, instruments, and appliances connected with their duties, and as full a knowledge as practicable of the theories and principles which they involve. For this purpose a course has been arranged requiring about two years to complete. Members are admitted at the beginning of each term, in October and January. At the end of a year those who can not profitably pursue the course further are given a certificate by the instructor setting forth the subjects in which they are proficient; those who complete the entire course are given a certificate signed by the staff of the school.

Instruction is given by recitation, lectures, and by the actual use and manipulation of all the instruments, machines, etc., pertaining to their duties. This instruction has been attended with the most gratifying results.

PRACTICAL MILITARY EXERCISES.

Drills during the year included exercises in mechanical maneuvers, artillery target firing, target firing with small arms, and infantry battalion drills. Being still without modern guns or modern material of any kind, artillery drills were necessarily limited to the use of the old material. These drills with those of last year covered the entire list of maneuvers prescribed for the school. Target firing with small arms took place during the month of May, and was limited to the 200 and 300 yard ranges, from six to eight targets being used.

Preparatory to the regular summer artillery firing, and to afford student officers some experience in ballistic firing with heavy guns, some experimental firing with the 8-inch C. R. was had during the month of June, under the direction of Capt. S. M. Mills, instructor in practical exercises, assisted by the student officers. His report and those of Lieuts. Parkhurst, Davis, Ruckman, and Berry show that the firing was conducted with great care and resulted in much valuable information.

The regular target firing this year being more particularly for the instruction of the school batteries, was conducted by battery, under battery commanders, Maj. H. C. Hasbrook, Fourth Artillery, director. Noncommissioned officers performed the duties of observers at the base ends and those at the plotting room. Increased interest and a better understanding of their duties at the guns were shown by all, and the result of the firing was an improvement on that of former years. Whistler's graphic method of using ballistic formulas was found to be of convenient application, and his charts substantially correct, so far as could be determined from this limited experience.

FINAL EXERCISES.

A board of officers consisting of Col. Edwin F. Townsend, Twelfth Infantry, Col. Loomis L. Langdon, First Artillery, Col. John M. Wilson, Corps of Engineers, Col. Alfred Mordecai, Ordnance Department, First Lieut. Henry L. Harris, First Artillery, recorder, was convened to meet at this post on Tuesday, June 21, to witness the final exercises in the course, which commenced on that day and were concluded on Friday, June 24. The board was in attendance throughout these exercises, and afforded every facility necessary to the accomplishment of its mission.

The special reports of the final action of the staff in the cases of all student officers were made by the commandant immediately after the conclusion of these exercises.

LIBRARY.

One hundred and twenty-three volumes have been added to the library during the past year, at an aggregate cost of $345.65. In addition to a subscription to six weekly and fifteen monthly publications, fifty-two volumes have been contributed from different departments of the Government and from private individuals.

PRINTING OFFICE AND BINDERY.

In addition to the current work of printing orders, circulars, instruction notes, etc., the following works have been issued or are in course of publication:

	Copies.
Lectures on explosives (completed) Lieut. Walke	500
Notes on chemical analysis, Lieut. Walke	500
Effect of wind on motion of projectiles, Lieut. Ruckman	60
Essays, department of artillery	500
Whistler's graphic charts	500
Numbers 1, 2, and 3, Volume I, Journal U. S. Artillery	1,550

In course of publication: Interior Ballistics, Capt. Ingalls. Essays, department of military science. Number 4, Journal U. S. Artillery.

BINDERY.

	Copies.
Machine guns, by Capt. Mills	1,000
Lectures on explosives, by Lieut. Walke	500
Chemical analysis	500
Essays, department of artillery	500
Whistler's graphic charts	500
Journal U. S. Artillery, three numbers	1,550

	Volumes.
Books for school and post libraries and instructors	565
Making pads for instruction purposes	974
Mounting maps, charts, etc	133
Blank note books for class	200
Total	6,422

SANITARY CONDITION.

The health of the command during the past year has been good. Buildings and grounds have been kept clean and the sanitary condition of the post has been as good as thorough police can make it, but the sewerage of the fort and of the buildings outside, especially of the hotels, is very imperfect and should be improved with as little delay as possible. A new hospital more suitably located and affording more modern conveniences is much needed and has been frequently recommended. The water supply for general purposes is also bad, indeed has become quite unfit for any purpose except flushing; but efforts are now being made to procure a good quality of water from other wells with good prospect of early success.

DISCIPLINE.

The bearing and conduct of the men and their attention to duty have been all that could be desired. The post exchange continues to con-

tribute to the welfare of the command; the branch of the Y. M. C. A. established at this post, the Catholic Social Club, the post reading room, and the recreation rooms connected with each set of barracks, all have their attractions for the men, and contribute largely to their improvement and contentment.

The average strength of the command during the period covered by this report was	340
Percentage of desertions	3.5
Discharge for disability, sentence of general court-martial, etc	32
Discharge by expiration of service	21
Reënlisted	10
Enlisted at post	80
Enlisted elsewhere for batteries at post	7
Recruits from depot (Davids Island)	19
Purchased discharge	8
Discharged after three months' furlough	18
Not desiring discharge after three months' furlough	4
Transferred	5

Of the nineteen recruits received from Davids Island few are in service now, most of them having been discharged for one reason or another or have deserted.

QUARTERS, ETC.

During the past year two double sets of officers' quarters have been completed and three double sets are near completion; two double sets of noncommissioned staff quarters and a brick forage house have also been completed, and a new coal shed near the wharf is under construction. Extensive repairs and improvements have been made upon the post hospital and the usual repairs upon other public buildings. Roads and walks have been improved and extended.

REMARKS AND RECOMMENDATIONS.

The artillery school is now quartered in a substantial brick building perfectly adapted to its wants, with large, well-lighted, and well-ventilated rooms heated by steam. Its laboratories are all fitted up in a very complete manner, affording largely-increased facilities to the student, and enabling him to do not only much better but from one-half to two-thirds more work in the same time than was possible in its former inadequate and unsuitable rooms with imperfect appliances. The application of four of the most distinguished scholars of the last class to continue their studies at the school another year is evidence of the advantages afforded by it. The plan of allowing a few of the best students in each class, who develop a taste or talent for any of the special courses at the school, to continue the study of them another year is believed to be the best method of extending the benefits of the school and is recommended. Such a policy would supply the artillery with necessary experts for different branches of artillery work, and provide a class of officers from which instructors can be selected when needed. The only impediment to such a course is a lack of quarters, which it is hoped may soon be remedied.

A search light, 36-inch lens or greater, with portable engine dynamo and a Fiske range-finder are much needed for instruction purposes in the electrical department. The cost of these items places them beyond the reach of the regular appropriation for the school, and it is recommended that they be provided by special appropriation or from some other source.

The importance of providing this post with modern guns at the earli-

est possible day, in order that officers of artillery may become familiar with their use while going through the school, need not be enlarged upon here.

The present course and its arrangement were recommended for approval after a very careful consideration and discussion of all the questions involved by the staff of the school and the corps of instructors. They were approved by the Secretary of War, and four years of subsequent experience have demonstrated the wisdom of the course and the proper sequence of its arrangement. The difficulties which it was foreseen would be encountered in providing satisfactory instruction in some of the departments have been overcome more speedily and more effectually than was anticipated, and all departments may now be considered as on a basis of permanent efficiency. A fuller development of some of them may necessitate slight readjustments from time to time, but it is believed that the future growth of the school will continue along its present lines.

Early in the year several members of the class expressed a desire to undertake the publication of an artillery journal, which should be a medium for the exchange of thought and the discussion of artillery questions by artillery officers and others interested in such questions, and also a means of distributing the latest information on artillery subjects obtainable in this and other countries. The want of such a journal had long been felt, and it was thought that if the initiative were taken it would meet with a cordial response. The scheme was approved by the staff, and the facilities afforded by the artillery school press were made available to them for its publication, other expenses to be borne by the journal. Through the efforts of these officers three numbers have already been issued and the fourth number is in course of publication. These have shown the feasibility and value of such a journal, and if it continues to receive the coöperation and support of artillery officers it is believed that it will become an important factor in the improvement of the service and a valuable source of information to all.

Very respectfully, your obedient servant.

ROYAL T. FRANK,
Lieutenant-Colonel, Second Artillery, Commandant.

The ADJUTANT-GENERAL U. S. ARMY,
Washington, D. C.

UNITED STATES MILITARY ACADEMY.

REPORT

OF THE

SUPERINTENDENT OF THE U. S. MILITARY ACADEMY.

HEADQUARTERS U. S. MILITARY ACADEMY,
West Point, N. Y., September 5, 1892.

GENERAL: As Superintendent of the U. S. Military Academy, I have the honor to submit the following report for the year ending August 31, 1892:

The number of officers and instructors stationed at this post on September 1, 1892, was as follows: Seven professors, 53 commissioned officers (including 1 surgeon and 1 assistant surgeon), 1 swordmaster, and 1 teacher of music.

THE CORPS OF CADETS.

Section 1315, Revised Statutes, provides that the Corps of Cadets shall consist of 1 from each Congressional district, 1 from each Territory, 1 from the District of Columbia, and 10 from the United States at large.

Under the terms of this statute the maximum number of cadets heretofore authorized has been 347; under the apportionment based on the census of 1890 the maximum number after March 3, 1893, will be 371.

The number of cadets at the Academy seldom exceeds 300, and on May 31, 1892, it was only 252, 2 of whom were foreigners receiving instruction by authority of special acts of Congress. Of these 252, 8 were declared deficient at the June examination and were discharged.

It will therefore be observed that on June 1, 1892, the Corps of Cadets lacked 28 per cent of the number authorized by law.

These losses are due to resignations, discharges based upon deficiency, either physically or in studies, and the failure of candidates to pass the preliminary examination required by section 1319 of the Revised Statutes. This last cause often arises from the delay in nominating candidates, the young gentlemen not having sufficient time to prepare themselves for the examination.

As stated in my last annual report, I am satisfied that a further moderate increase of the corps will be advantageous, believing that the plant is amply sufficient to turn out annually a larger number of graduates. Such increase might well be made by restoring to the President of the United States the privilege of appointing 10 cadets each year, of which power he was deprived by the act of June 11, 1878.

On September 1, 1891, there were 287 cadets connected with the Military Academy.

Since that date the loss has been 18 by resignation, 29 by discharge, 2 by death, and 62 by graduation.

The gain has been 114 admitted as new cadets, making at present a total number of 290 belonging to the corps, 5 of whom were admitted September 1, 1892.

This number includes 1 cadet from Switzerland and 1 from Central America, who are receiving instructions at the Academy by authority of joint resolutions of Congress.

THE PRELIMINARY EXAMINATION FOR ENTRANCE TO THE ACADEMY.

Section 1319 of the Revised Statutes provides that appointees shall be examined under regulations to be prescribed from time to time by the Secretary of War before they shall be admitted to the Academy, and shall be well versed in reading, writing, and arithmetic and have a knowledge of the elements of English grammar, of descriptive geography, particularly of the United States, and of the history of the United States.

Under the regulations prescribed by the Secretary of War, each candidate is subjected to a very thorough physical examination, and the large percentage of failures to pass these physical examinations appears almost remarkable; of 185 youths who presented themselves before various examining boards throughout the United States on March 1, 1892, 39 (nearly 22 per cent) were declared physically disqualified by the medical officers and were not permitted to appear for mental examination.

Up to September 1, 1891, the preliminary examinations for entrance to the Academy took place at West Point, N. Y.

In my last annual report I urged that these examinations be conducted away from the Academy, giving as my reasons that it would be greatly to the advantage of the candidates, who upon arriving here were always placed at more or less disadvantage on account of their surroundings, their absence from home and being entirely unaccustomed to the rules and methods of discipline to which they are, at once, necessarily subjected; moreover, the unsuccessful candidates would thus be spared the expense of the journey to West Point.

Based upon this recommendation and its approval by the Board of Visitors for 1891, the Hon. Secretary of War ordered boards to be convened on March 1, 1892, at various points throughout the United States, before which candidates were directed to appear for physical and mental examination.

The physical examination was made by surgeons of the U. S. Army in accordance with detailed instructions from the War Department. The mental examination was in writing, the questions having been prepared in advance under the direction of the academic board of the United States Military Academy.

Each candidate was given a number, and the names and numbers were forwarded to the Adjutant-General of the Army. Upon his examination papers each one placed his number (not his name), with the place and date of the examination.

As soon as the examination papers were all completed they were sent from the various examining boards, under seal, to the Superintendent of the Military Academy and by him laid before the academic board. The papers were carefully revised and the board, through the Superintendent of the Academy, notified the War Department of the numbers of the successful candidates; the War Department then informed the

Superintendent of the names corresponding to the numbers of those who had passed and would be admitted to the Academy.

Of the 145 candidates who passed the physical test, 99 passed the mental tests at the March examination.

As there were still many vacancies at the Academy after the result of the March examination was announced, the War Department authorized 85 young gentlemen to report here on June 13, 1892, for examination by the medical department and by the academic board under the old system; of these 85, 17 failed to report and 3 declined, after their arrival, to submit to the examination, leaving only 65 who appeared before the board; of these 65, 11 were declared physically disqualified, 31 failed on the mental examination, and 23 were declared physically and mentally qualified; 2 of those declared physically disqualified, 1 on account of myopia, the other on account of color blindness, were afterwards admitted on probation by direction of the Secretary of War. Of the 65 thus examined in June, 24 had been previously examined in March and had failed; of these, 15 failed a second time.

I most earnestly repeat my recommendation that all of these examinations shall be completed before the candidates report at West Point.

In order that there may be an opportunity for a second examination to fill vacancies caused by failures at the first, I recommend that boards shall be convened on February 15 and May 15, before which candidates may be ordered, and that the mental examination shall precede the physical; the latter can be made while the academic board is revising the papers of the candidates and the reports of the physical and mental examinations will be before the War Department at the same time, probably by March 1 and June 1, and all who have passed their examinations can be promptly admitted and the oath of allegiance administered on June 15 of each year.

I further recommend that alternates who have been declared physically and mentally qualified at the May examination, but whose principals have been admitted, be appointed to fill the vacancies for which no nominations have been made.

It has been suggested that for every vacancy at the Academy 1 principal and 2 alternates should be appointed.

This would be very satisfactory in case these young gentlemen could all be examined at the same time before boards convened at localities near their homes or the schools which they may be attending. It frequently happens that the expense incident to the journey to the place of examination prevents alternates from making the trip when the chances seem to them to favor the success of the principal.

Of the 211 young men authorized to appear before boards on March 1, 139 were principals and 72 alternates; of these 185 reported, 129 of whom were principals and 56 alternates.

Of the 85 young men authorized to appear before the academic board on June 13, 59 were principals and 26 alternates; of these, 68 reported, 50 of whom were principals and 18 alternates.

It is a great disappointment to an alternate to pass and still fail to gain admission, after coming here, because the principal has passed; the disappointment is not so great when the examination takes place near his home and he is not obliged to report at the Academy.

THE DEPARTMENTS OF INSTRUCTION.

The departments of instruction of the institution are as follows:

The department of philosophy.

The department of languages.

The department of drawing.
The department of mathematics.
The department of chemistry, mineralogy, and geology.
The department of history, geography, and ethics.
The department of civil and military engineering.
The department of tactics.
The department of law.
The department of practical military engineering.
The department of ordnance and gunnery.

The reputations of the distinguished gentlemen presiding over these departments render it hardly necessary for me to mention the high state of efficiency to which they have brought their various courses of instruction.

A careful study of their work and frequent visits to their section rooms has fully shown me the wonderful progress in modern education, and that in scientific and military training and in methods of instruction the Academy always maintains the highest standard.

THE DEPARTMENTS OF LAW AND OF ORDNANCE AND GUNNERY.

Section 1309 of the Revised Statutes provides for assistant professors in all the academic departments of instruction except those of law and of ordnance and gunnery, while section 1337 of the Revised Statutes provides that each assistant professor shall receive the pay of a captain. The department of languages has two assistant professors, one of French the other of Spanish.

The importance of the departments of law and of ordnance is so fully recognized, that it seems unjust to the first assistants in each that they should not be accorded the same pay now received by officers occupying similar positions in other departments. Attention is respectfully invited to the communication of the instructor in ordnance and gunnery, herewith, in which he urges that his assistant should have the same pay and emoluments as officers occupying like positions in other departments; equally strong reasons can be advanced in favor of granting similar privileges to the senior assistant in the department of law.

I therefore again respectfully recommend that the senior assistants in these two departments shall hereafter be known as the assistant professor of law and assistant instructor of ordnance and gunnery, and that they shall receive the same pay and emoluments now authorized by law for the assistant professors in other academic departments.

MASTER OF THE SWORD.

I invite attention to the recommendation submitted in my last annual report and in the reports of the Boards of Visitors in regard to the faithful, efficient, and capable swordmaster, Mr. H. J. Koehler.

It is earnestly recommended that the bill now before Congress giving him the rank of a first lieutenant of infantry shall speedily become a law.

Mr. Koehler, who at present occupies the position of swordmaster, performs also the duties of instructor in gymnastics and swimming. He is faithful, energetic, and remarkably well qualified, both physically and intellectually, for his important work.

During the past seven years he has worked up a system of gymnastics for the Corps of Cadets which by its results has won the admiration of the members of the Boards of Visitors and others who have

witnessed it. His system of calisthenics has been adopted by the War Department for the general use of the Army.

THE CADET QUARTERMASTER AND COMMISSARY DEPARTMENT.

I respectfully invite attention to the interesting report (herewith) of Capt. W. F. Spurgin, Twenty-first Infantry, brevet major U. S. Army, now in charge of these departments.

Capt. Spurgin deserves great credit for the energetic, faithful, and efficient manner in which he has discharged the important duties committed to his care.

The improvement in recent years in the character of food furnished the cadets and the method of serving it is very satisfactory, particularly as it has been accomplished at comparatively little increased expense.

I commend Capt. Spurgin for the zeal and ability he has manifested in his work.

U. S. MILITARY ACADEMY BAND.

By the act of March 3, 1875, the Military Academy Band consisted of 1 teacher of music and 40 enlisted musicians; of the latter 10 received $34 per month and the remaining 30 received $30 per month, with the usual allowances of enlisted men.

By the act of March 3, 1877, the band was reduced to 1 teacher of music and 24 enlisted men, 6 of whom receive $34 per month, 6, $20 per month, and the remaining 12, $17 per month, with the usual allowances of enlisted men.

This is the present status of the band, and I earnestly invite attention to the appeals annually made in the reports of the boards of visitors and by the Superintendent of the Military Academy for its improvement.

It is earnestly hoped that during the coming session of Congress the condition of the band will be improved and in case of its reorganization I recommend that hereafter it shall be constituted as follows:

One teacher of music, who shall have the rank, pay, and emoluments of a second lieutenant so long as he shall remain such teacher of music; 1 drum major, with the rank, pay, and emoluments of a sergeant of engineers; 30 musicians, 15 of whom shall be known as first-class musicians, with pay of $34 per month, and 15 as second-class musicians, with pay of $24 per month; all to have the same allowance of clothing, rations, and quarters as now authorized by law.

I commend to the favorable notice of the War Department Mr. A. A. Clappé, the present teacher of music, who has performed his very important duties in an earnest, faithful, and most satisfactory manner.

ARTILLERY OF THE POST.

I respectfully invite attention to my reports for the years 1890 and 1891 upon this subject.

When my report for 1891 was rendered the armament of the post was as follows:

In the seacoast battery.—Two 15-inch Rodman S. B. guns, three 8-inch converted rifles, one 10-inch Rodman S. B., one 300-pounder Parrott rifle, one 13-inch S. B. mortar.

In battery Knox.—One 100-pounder Parrott rifle, one 300-pounder Parrott rifle, one 8-inch converted rifle, four 10-inch Rodman S. B.

It will be observed that there was not a modern high-power steel

gun in either battery; the 10-inch Rodmans and the Parrott rifles are obsolete; the 15-inch Rodmans and the 8-inch converted rifles are retained in service for secondary purposes; the 13-inch mortar is practically obsolete.

In the siege battery.—Six 4½-inch rifled cast-iron siege guns; three 10-inch S. B. siege mortars; three 8-inch S. B. siege mortars. Of these the siege guns are obsolete and are never fired, being used only for drill purposes; the mortars are used, but are not modern.

Field guns.—Six 3.2-inch B. L. field guns, with steel carriages, limbers and caissons complete. Twelve 3-inch wrought-iron M. L. field guns, with carriages, limbers, and caissons complete.

There were also a few modern machine and rapid-fire guns.

During the present year changes have been made as follows:

Seacoast battery.—One 12-inch B. L. mortar, cast iron, steel hooped, has been received and is waiting the arrival of its carriage, when it will be mounted; meanwhile it is used in the practical instruction of cadets.

Two 8-inch front pintle barbette carriages of the latest pattern, for the 8-inch converted rifles, have been received and mounted in the battery, replacing two carriages, one of which was out of repair and the other of an old pattern.

Two 8-inch converted rifles have been received to replace the 10-inch S. B. Rodman and the 300-pounder Parrott; the latter is believed to be unsafe and has not been fired for many years; new carriages will be provided for all the 8-inch converted rifles as soon as an appropriation can be obtained for constructing new emplacements.

The present platforms are center pintle; the Ordnance Department no longer furnishes center pintle carriages for 8-inch converted rifles and hence the changes necessary in the emplacements. An estimate is submitted for new platforms and the Chief of Ordnance will furnish the carriages as soon as the new emplacements are ready.

Siege battery.—Three 10-inch S. B. mortars have been substituted for the three 8-inch mortars, and the embrasures have been arranged so as so admit firing the 3.2-inch field guns at a distant target.

The same old 4½-inch muzzle-loading guns remain in position, and I earnestly hope that the time is not far distant when this battery will be supplied with modern steel guns.

Field batteries.—Six 3.2-inch field guns have been received and temporarily mounted on the old wooden carriages for the 3-inch guns; this was done in order to furnish 3.2-inch guns for instruction in the manual of the piece, and thus allow the mounted drill to go on at the same time with the regular 3.2-inch battery.

It is hoped and expected that during the coming year we will receive for the seacoast battery an Easton & Anderson carriage for the 12-inch B. L. mortar and an 8-inch steel B. L. rifle with barbette carriage complete; this will provide us with a modern B. L. mortar and a modern steel high-power gun for instruction.

In the siege battery we have asked that the old 4½-inch M. L. rifles be replaced with four new 5-inch steel B. L. siege guns and two 7-inch steel B. L. howitzers, with their carriages; it is believed that the guns and howitzers will be ready during the year, but it is doubtful whether the carriages will be completed.

In the field batteries we hope to be supplied with new caissons and limbers for the battery used at mounted drill, and to replace with steel carriages the wooden ones temporarily arranged for instruction in the manual of the piece.

The Chief of Ordnance has responded most favorably, so far as was in his power, to our efforts to improve the batteries, and I feel quite sure that, with the necessary appropriations for emplacements at our disposal, we will eventually have an armament which will be a credit to the institution.

MEN AND HORSES FOR LIGHT BATTERY.

I repeat the recommendations made in my previous reports that the light battery be placed upon an independent footing; that a detachment of not less than 30 artillery soldiers be ordered here for duty with the batteries, and that 50 strong draft horses be supplied for this particular purpose, relieving the light cavalry horses from the duty, which utterly unfits them for their legitimate work.

This subject has received the attention of various boards of visitors, and there appears to be but little difference of opinion as to the impropriety of using light cavalry horses for hauling artillery.

When not employed on artillery duty the men could be engaged upon other important work and the horses used for teaming and for preliminary cavalry instruction of cadets.

COMPANY E, BATTALION OF ENGINEERS.

This company maintains the same excellent character for drill, discipline and instruction heretofore accorded it. Under its energetic and efficient officers it has been instructed not only in the duties of sappers, miners, and pontonniers, but also in all the varied and important duties of other troops of the line.

The company has charge of the repair and preservation of all the batteries, and in accordance with the terms of section 1157, Revised Statutes, assists in the instruction of the Corps of Cadets in practical military engineering and signaling.

The officers are indefatigable in their efforts to improve the welfare, drill, and discipline of the company.

The buildings occupied as quarters and for shops and storehouses are models of neatness.

THE CAVALRY DETACHMENT.

The cavalry detachment consists of 68 men, with a troop organization, and assists in the instruction of the cadets in cavalry and light artillery drill. It is fully armed and equipped and is regularly drilled on foot and on horseback.

During the past year the detachment has been moved into its new barracks, which is a marvel of neatness and comfort.

As a rule the men are faithful and diligent in the discharge of their duties.

I can only repeat the statements made in my previous reports that there should be separate detachments of horses for artillery and cavalry drill, the cavalry horses being too light for hauling the heavy field pieces and caissons.

THE DETACHMENT OF ARMY SERVICE MEN IN THE QUARTERMASTER'S DEPARTMENT.

For many years the Superintendent of the United States Military Academy had under his command at this post a detachment of 185 en-

listed men, 117 of whom were known as the United States Military Academy Detachment of Artillery and 68 as the United States Military Academy Detachment of Cavalry. These men were a part of the line of the Army and subject to military duty of any kind, here or elsewhere.

The Superintendent of the Academy had the power to transfer the men from one detachment to the other and to increase one at the expense of the other whenever he saw fit.

The artillery detachment performed the duties of clerks, mechanics, janitors, watchmen, and laborers at the Military Academy and the post of West Point, and the cavalry detachment had charge of the stables and horses and assisted in the instruction of cadets in cavalry and artillery drill, performing also stable guard duty.

By authority of the Secretary of War, dated January 21, 1889, upon the application of the Superintendent the latter was authorized to place the post quartermaster in command of the detachment of artillery in order that he might more directly give orders to these men in connection with the various duties appertaining to his department.

By the terms of the act of Congress approved June 20, 1890, it was provided—

> That the enlisted men known as the artillery detachment at West Point shall be mustered out of service as artillerymen and immediately reënlisted as Army Service men in the Quartermaster's Department, continuing to perform the same duties and to have the same pay, allowances, rights, and privileges and subject to the rules, regulations, and laws in the same manner as if their service had been continuous in the artillery, and their said service shall be considered and declared to be continuous in the Army.

It was assumed at once that the Superintendent no longer had power to transfer from one detachment to the other, as heretofore, and further decided that a soldier whose application to serve in the Army Service detachment was approved by the War Department, must first be discharged from the branch of service to which he belonged and then enlisted in the Army Service.

The men of the detachment are not soldiers in the ordinary acceptation of the term, and are neither armed, equipped, nor drilled; they have a company organization, but are seldom called together, except at monthly musters, as their duties as clerks, messengers, janitors, overseers, mechanics, watchmen, and laborers require their presence at different places on the post.

The married men occupy quarters with their families while the single men are quartered in barracks, where they mess together, and are regularly inspected once a week.

While the majority of these men are zealous and faithful in the discharge of their duties, I regret to say that there are some who, by their conduct, fail to reflect credit upon the organization. This is shown by the fact that there were forty-nine cases of men of the detachment tried by a summary court between August 1, 1891, and August 1, 1892.

I prefer to wait another year before pronouncing this experiment a success and recommending that it be extended to the Army generally.

NEW BUILDINGS.

During the past year the following buildings have been completed:

The new gymnasium (almost), the new cavalry barracks, the new hospital for enlisted men, the five new sets of quarters for officers, and twenty new sets of quarters for married enlisted men.

The cadet quartermaster store has been enlarged by the erection of an addition on the north side and the building used as quarters for the employés of the cadet mess has been raised one story.

There has been considerable delay and annoyance in connection with the construction of the new gymnasium.

The work was commenced in June, 1890, under contract with Mr. John Sheehan. Slow progress was made, and on August 14, 1891, Mr. Sheehan, after completing the walls and placing a portion of the iron roof-trusses in position, abandoned his contract.

By authority of the Secretary of War the contract was declared forfeited, proposals were invited for completing the building, and on September 25, 1891, a new contract was made with Mr. John Moore, of Syracuse, N. Y., with the understanding that the work would be completed by January 1, 1892.

It appeared to be a somewhat difficult task to gather up the loose ends of an abandoned contract, and Mr. Moore soon found that it was impossible to complete the job within the time he had suggested. Extensions were granted until April 1, again until May 18, again until July 15, and finally until August 31, when the building was almost finished. A photograph taken in August is submitted herewith.

The work has been thoroughly done. The plans were prepared by that eminent architect Mr. Richard M. Hunt, of New York, and the structure is one of which the Academy may well be proud.

THE NEW ACADEMIC BUILDING.

The plans and specifications for this building were prepared by Mr. Richard M. Hunt, of New York, and the contract for its erection was made May 18, 1891, with Messrs. J. E. and A. L. Pennock, of Philadelphia, Pa.

The Messrs. Pennock commenced work upon the demolition of the old structure in the latter part of June, 1891, and have pushed forward their operations with skill and as rapidly as they could possibly obtain stone from the Hudson and Chester Granite Company, of Chester, Mass., by which company the granite is furnished.

While the contractors are somewhat behindhand on account of lack of stone, I desire to commend them for their energy and efforts to do the very best character of work.

The walls of the south wing are above window heads of the third story, while those of the middle and north sections are at an average height of the first-story window sills.

It was hoped and expected that the south wing would be ready for occupancy by the close of the present calendar year. This is now very doubtful, but I believe that both the south and middle sections will be completed by the opening of the academic year, September 1, 1893, and that the whole building will be finished by the close of December, 1893.

A photograph of the east and south elevations of the building as it will appear when completed is submitted herewith.

THE LIBRARY BUILDING.

This building was used both as a library and an observatory until the construction of the tunnel of the West Shore road under West Point rendered it necessary to abandon it for observatory purposes.

It is still used for purposes of instruction by the departments of philosophy, law, and history.

The library proper now contains 36,000 bound volumes, together with a large number of pamphlets, and is increasing at the rate of 1,000 volumes per annum.

The entire renovation and reconstruction, except the walls, is necessary.

As soon as the new academic building is sufficiently completed to admit of occupancy, the departments of instruction should be moved into it and the entire structure devoted to library purposes only.

The roof trusses and rafters are of wood and the slate covering is in bad condition. The roof should be made fireproof.

The stone piers in the mural circle, transit, and equatorial towers should be removed and the space thus obtained can be arranged for rooms for study and reference; the covering of the transit and mural-circle towers must be entirely replaced and that of the equatorial tower might be made of glass to throw light from above.

All the interior fittings of the library should be fireproof, similar to those used in modern constructions.

The cost of this work is estimated to be about $40,000, and I earnestly recommend that this appropriation may be made at once, or that at least $2,500 may be made available for the employment of a skilled architect to prepare plans, specifications, and estimates for the complete renovation of the interior of the building.

THE WEST POINT CEMETERY.

The West Point Cemetery contains an area of about 14 acres, more than one-half of which is still only partially improved.

The old cemetery, which contains the remains of officers, cadets, soldiers, and resident civilians who have died in past years, is also honored with being the final resting place on earth of some of the most distinguished soldiers of the Republic.

As the cemetery was being rapidly filled, I extended its limits in 1890 so as to take in the adjacent ground, occupied in years past as a cadet garden. This new addition is now being laid out to correspond with the beauty of the remainder of the cemetery.

I had hoped that we might obtain the sum of $1,500, for which I asked in my last annual report, to continue the improvement of this home of the illustrious dead, but it was deemed best to reduce the estimate to $250, hardly sufficient to maintain the beauty and good order of the completed portion.

I shall continue my efforts to beautify this spot, hallowed to the memory of the heroes who have devoted their lives to their country, and I earnestly beg that the sum of $1,500 be allowed this year for continuing this work of respect for the dead.

SEWERAGE AND PLUMBING.

With the funds appropriated by the act of March 2, 1891, a vast improvement was made in the plumbing in a number of the buildings on the post, and it is believed that the appropriation made by the act of July 14, 1892, will go very far towards the completion of the existing project.

A large portion of the new appropriation will be devoted to the plumbing connected with the buildings occupied as barracks by the enlisted men.

WATER SUPPLY.

The source of the water supply of the post of West Point is the rainfall on the hills and valleys surrounding the reservoirs.

There are five reservoirs, with capacity as follows:

	Gallons.
(1) Round Pond	48,000,000
(2) Delafield Pond	9,000,000
(3) Sinclair Pond	1,300,000
(4) Crownest Pond	300,000
(5) Cascades Dam Pond	500

Only the second, fourth, and fifth are ordinarily used, the other two being held in reserve for emergencies, as they can not be made available without filtering, and even then are not very satisfactory.

During the summer and early autumn of 1891 the supply of water became dangerously low and at one time it seemed as if it would be necessary to cut it off from certain portions of the post. Round Pond was drawn upon the latter part of June, 1891, and the post was dependent upon it until October, its level during that period being reduced nearly 10 feet and probably nearly two-thirds of its contents used. Had winter set in without the usual heavy autumn rains the result would have been disastrous, as our boilers for heating cadet barracks, mess hall, hospital, etc., and our gas plant are dependent upon the water supply.

As new buildings are being erected and modern sanitary plumbing is demanding a large supply of water, I directed Capt. George McC. Derby, Corps of Engineers, the officer in immediate charge of the water supply, to make a careful study of the subject and to submit a plan and estimate for an additional reservoir, which, with the aid of those already established, would assure the post against a water famine during the driest seasons.

Capt. Derby has performed this work in a most satisfactory manner, and I invite attention to his report, submitted herewith.

I concur in his views and after a personal examination of the site have adopted the plan for a reservoir south of Fort Putnam and submit an estimate of the cost thereof, as follows:

Excavation for foundation, 650 cubic yards, at 25 cents per yard	$162.50
Excavation of drain	100.00
Excavation of 20,000 cubic yards mud, at 25 cents per yard	5,000.00
6,000 cubic yards earthen dam, at 50 cents per yard	3,000.00
3,000 feet 6-inch pipe, at $1.50 per foot	4,500.00
Laying 3,000 feet pipe, at 50 cents per foot	1,500.00
Contingencies	1,737.50
Total	16,000.00

The new reservoir will cover an area of about 10 acres and will hold 50,000,000 gallons of water. It will be 1,175 feet long and 525 feet wide, The dam at the south end will be 164 feet long and 22 feet high.

It is earnestly recommended that an appropriation shall at once be made for this necessary and important work.

ENLARGEMENT OF HEATING PLANT OF THE ACADEMY.

The erection of the new gymnasium and the anticipated completion within the next year of the new academic building necessitates additional boiler power for heating purposes.

By my direction First Lieut. J. E. Kuhn, Corps of Engineers, has made a careful study of this subject and I invite attention to his interesting report, submitted herewith.

The new academic building alone will require boiler power equivalent to 150 horse power. The present plant consists of four horizontal tubular boilers rated at 80 horse power each. During very cold weather all four boilers are worked to their full capacity, and it will therefore be necessary to increase the plant at least 200 horse power. It is therefore recommended that two additional boilers of 100 horse power each be placed in position.

The estimated cost of this work is as follows:

Two 100 horse-power water-tube boilers, complete	$5,300
127 cubic yards masonry, at $12 per yard	1,524
New roof to boiler house	750
200 feet 10-inch steam pipe, at $5	1,000
Contingencies	926
Total	9,500

If ordinary horizontal tubular boilers are used this estimate can be reduced $2,500. It is believed that the water-tube boilers would soon pay the difference in cost by their greater coal economy.

THE BATTLE MONUMENT.

A sketch of the proposed battle monument is submitted herewith.

The monument was designed by Messrs. McKim, Mead & White, of New York, and the bronze figure of Victory which will surmount it was modeled by Mr. Frederick W. MacMonnies of that city.

The description of the design, as given by the architect, is as follows:

In preparing the design we have most carefully considered the object of the monument and the site which it is to occupy. We believe the monument should be first and foremost a martial one, distinctive in its character and impressive in its design.

The beauty of its site and the surroundings seem to us to preclude any bulky or massive treatment, and to suggest rather a treatment where the impression should be produced by height supported by a base which should not interfere with graceful and artistic treatment.

For this reason we have adopted as the feature of our design a single monolithic shaft, treated in the shape of a memorial column or column of victory.

This form seems to us to be more distinctively martial than any other, and in this form we believe it is possible to obtain impressiveness and dignity without a sacrifice of grace and at the same time preserving a distinctively architectural and monumental character.

We lay great stress upon these two points, viz, the necessity of giving the monument a martial design and the relation of the monument to its site.

The shaft is a monolith, 41 feet 6 inches high and 5 feet 8 inches in diameter. It is proposed to surmount it with a figure of Victory.

The shaft rests upon a circular base, surrounded by flights of steps, giving the greatest breadth and dignity possible to the base.

The materials are most enduring—granite and bronze.

On July 28, 1891, a contract was made with the firm of Norcross Brothers, of Worcester, Mass., for the granite work and the necessary labor of placing the bronzes in position.

The height of the monument when completed will be 78 feet.

The cut stone is finished with the exception of the big main shaft, four of the polished balls, and the capital. The shaft has been gotten out from the quarry, blocked up, the cast-iron trimmings bolted to the ends, and everything is ready to go on with the work whenever the present strike in the quarries is settled.

Arrangements for constructing the foundation were commenced in August, 1892, and by the close of the month the work was well under way.

It is hoped that the great shaft may be completed in time to be hauled to the site during the coming winter and that the monument will be finished by the summer of 1893.

The site selected is on the plain north of Execution Hollow and about 100 yards east of Trophy Point, thus rendering the monument visible from the river north of West Point.

I am under many obligations to the Adjutant-General's Department of the Army for the earnest assistance afforded me in procuring the names of all enlisted men of the regular Army who were killed in action or died of wounds received in action during the war of the rebellion. It is hoped to have every such name appear upon the monument.

THE CULLUM MEMORIAL HALL.

By the death of that noble soldier, that distinguished scientist, that accomplished gentleman, the late Maj. Gen. George W. Cullum, of the Corps of Engineers, U. S. Army, the U. S. Military Academy has fallen heir to a magnificent bequest amounting to $300,000, which is to be devoted to the erection of a memorial hall, the purchase of statues, busts, portraits of distinguished deceased officers and graduates, and to the continuation of the publication of Gen. Cullum's biographical register of graduates.

Congress has already accepted this munificent bequest in accordance with the terms of the will and has provided a board of trustees, which has met and organized, electing the Superintendent of the United States Military Academy as its president and Prof. James Mercur, United States Military Academy, as its secretary.

The board fully realizes the importance of the trust imposed upon it, and it is believed that under its supervison a structure will be erected which, as a memorial hall, will be a lasting monument to the memory of the noble soldier and Christian gentleman to whom the Academy is so greatly indebted.

THE HEALTH OF THE COMMAND.

Attention is invited to the interesting report of Maj. Henry McElderry, surgeon, U. S. Army, submitted herewith.

The general health of the command during the year has been very good. There has been no epidemic of any kind and but few serious cases of illness.

The Corps of Cadets has been called upon to lament the death of Cadets George Henderson Myer and Arnold Akester, most estimable youths of high character. The former died of rheumatic fever and endocarditis on May 14, 1892, and the latter died very suddenly on the morning of August 29, 1892, from "formation of heart-clot."

Once more it is my pleasure to express my deep appreciation of the earnest, faithful, and intelligent assistance I have received in the discharge of my official duties from every professor and other officer connected with the Academy, and my gratification at being again able to report the Corps of Cadets in excellent condition as regards health, drill, discipline, and instruction.

In conclusion I trust that my love for my *alma mater*, my pride in its development, my admiration for its work, and my full belief in its continued success will be a sufficient excuse for quoting the following eloquent tribute to the Military Academy from the address made by Gen. Francis A. Walker, of Boston, at the convocation of the University of the State of New York at Albany on July 9, 1891:

There is one school in the United States mainly devoted to the application of scientific principles to a professional art, which is so well known to all our people, and whose work in the development of mind and manhood has been so severely tested in the sight of the country and of the whole world, that I can not forbear to allude to it here. I mean the Military Academy at West Point.

There is no reason to believe that for the thirty years preceding the civil war the young men who went to that school were in any degree superior to those who entered Yale or Harvard.

Indeed, there was at that time, at least throughout the North, a certain disinclination on the part of the more generous and ambitious of our youth to adopt the career of arms.

Yet, when the war broke out, what a wealth of intellect and character was displayed by the graduates of that one small school during the terrific trial to which they were instantly and without preparation subjected.

Think how many men from that single academy, which had fewer living graduates than either Amherst or Williams, led army corps and armies with distinction on the one side or the other in what was perhaps the greatest war of modern history.

I said "of intellect and character," for it is character even more than intellect which enables the commander to bear the tremendous cares, responsibilities, and burdens of his office.

Gen. Walker then asks what it was which, out of these small classes of raw lads, developed the great soldiers of the war, and closes by saying:

Doubtless in some part it was the romance and the highly stimulating influences of the military career. Doubtless in part, also, it was the special inspiration of the tremendous occasion, fraught as that was with the destinies of a continent.

But I believe it in still greater part to have been the perfectly natural effect of the application of perhaps not extraordinary powers to the thorough, patient, unremitting study of scientific principles, directed straight upon a worthy profession, under the tuition and guidance of renowned masters of that art, and under the constant influence of professional ideas, professional sentiments, and great professional examples.

I am, sir, very respectfully, your obedient servant,

JOHN M. WILSON,
Colonel of Engineers,
Superintendent United States Military Academy.

The ADJUTANT-GENERAL U. S. ARMY,
Washington, D. C.

NEW GYMNASIUM, WEST POINT, NEW YORK.

HEADQUARTERS UNITED STATES CORPS OF CADETS,
West Point, N. Y., July 11, 1892.

The ADJUTANT UNITED STATES MILITARY ACADEMY,
West Point, N. Y.:

SIR: I have the honor to report that during the preceding twelve months instruction has been given in the drill of the three arms; in target practice with small arms, new breech-loading field guns, seacoast guns, and mortars; in mechanical manœuvers with field, siege, and seacoast guns; in fencing with small sword and bayonet; in gymnastics and swimming; in military police and discipline, and in quartermaster, subsistence, and company administration.

Many changes having been introduced in the new infantry drill regulations, the available time during the spring was taken up entirely, so that there was no opportunity for practical instruction in minor tactics, such as was given last year.

The officers detailed as assistants in the tactical department have been most earnest in their efforts to maintain the excellent reputation of the Corps of Cadets, and its gratifying condition as to discipline and high honor is an attest of their tact and judgment.

Very respectfully,

H. S. HAWKINS,
Lieutenant-Colonel, Twenty-third Infantry, Commandant of Cadets.

UNITED STATES MILITARY ACADEMY,
OFFICE OF INSTRUCTOR OF ORDNANCE AND GUNNERY,
West Point, N. Y., July 11, 1892.

The ADJUTANT UNITED STATES MILITARY ACADEMY:

SIR: I have the honor to forward herewith the annual estimate for the fiscal year ending June 30, 1893, for the department of ordnance and gunnery.

I would respectfully recommend that an additional item be introduced into the Military Academy appropriation bill giving to the senior assistant instructor in the department of ordnance and gunnery the pay of captain mounted.

This has been recommended by several boards of visitors and by the Superintendent of the Military Academy.

The department of ordnance and gunnery is practically the only one of the academic departments whose principal assistant does not receive this additional pay. His duties extend through the academic year from September to June, and in addition to his academic duties there are others connected with the batteries and armament of the post which require his attention.

For these reasons I would respectfully recommend that this additional pay be allowed him.

Very respectfully, your obedient servant,

LAWRENCE L. BRUFF,
Captain, Ordnance Department U. S. A.,
Instructor of Ordnance and Gunnery

WEST POINT, N. Y., *October 24, 1891.*

The ADJUTANT UNITED STATES MILITARY ACADEMY:

SIR: In compliance with the requirements of your letter of September 19, directing me to submit a plan and estimate for increasing the water supply of the post so as to afford all water necessary for the new buildings recently erected and those now in process of erection, during all seasons of the year, I have the honor to submit the following report:

The present water supply of the post is derived from the mountain streams feeding the small reservoirs at Delafield Pond, Crownest, and the Cascades, and during protracted droughts from Sinclair Pond and the reserve supply at Round Pond. Recent measurements during the month of August show the consumption of water on the post to amount to about 277,000 gallons per diem. Allowing for the new buildings and probable growth of the post for the next ten years, I should estimate the requirements of the post at about 110,000,000 gallons per annum.

The available rainfall on the reservation is far more than ample to supply this amount of water of excellent quality, the only difficulty with the present system

being that it lacks sufficient storage capacity. During the past year every reservoir on the post was overflowing for upward of one hundred and twenty-eight days. Of the reservoirs mentioned above, Round Pond, with an available capacity of 48,000,000 gallons, is the ouly storage reservoir, the others being all too small to serve as anything but service reservoirs.

A storage of 48,000,000 gallons is too small for an annual consumption of 110,000,000 gallons derived from streams that are commonly dry in summer. We should have in store, at the lowest possible estimate, six months' supply or 55,000,000 gallons; and in the light of the present condition of the supply I should say that 75,000,000 would be none too much to avoid the anxiety incident to getting very close to the limit during dry seasons, particularly as it must be borne in mind that there is some doubt as to whether Round Pond can be relied upon to refill itself from one season to the next.

The most available sites for storage reservoirs on the reservation are at the lower end of the public meadow and on the back road between Fort Putnam and the observatory. The first was examined and surveyed by Lieut. Biddle, under the direction of Capt. Price, in 1888; the second has been recently surveyed by Lieut. McKinstry.

Tracings of both maps are submitted herewith.

A reservoir in the public meadow would receive its supply from the stream that flows through the meadow into Sinclair Pond and the overflow from the Cascades could readily be turned into it. The supply would be most ample, and with proper treatment of the reservoir site and catchment basin I consider that there could be little doubt of the satisfactory quality of the water, in spite of the fact that that collected in Sinclair Pond at present is very poor.

A reservoir on the site near Fort Putnam would receive its supply from the basin that naturally drains into it and from the large brook that now flows through the Kinsley orchard, which can be turned into this basin at a point on the mountain side at nominal expense.

This supply would be ample, being in itself greater than the entire consumption of the post.

The area draining into the reservoir would, with this addition, amount to about 175 acres.

The rainfall, as given by the Weather Bureau from observations taken at the old cadet hospital at this post, is 47 inches; the observations taken at the new hospital for six years past average 51.6 inches; those taken at Round Pond for six years average 53.8 inches, and the general average for the State of New York, as given by the Weather Bureau, is 42 inches.

The available rainfall, after deducting for evaporation and infiltration, is given by Rankine as from 80 to 100 per cent for steep granite slopes, as 60 to 80 per cent for hilly pasture, and 40 to 60 per cent for open farm land. From the conformation of the basin under discussion, its dense growth of wood, and its impermeable soil, as evidenced by the fact wherever the drainage is checked on the hillside a swamp is formed, I think that it would be conservative to estimate the available rainfall at 66 per cent of the total. If we assume the latter at 42 inches, the lowest of the figures given above, we would again be on the safe side, and the result would be a supply of about 135,000,000 gallons, considerably more than the entire consumption of the post. I feel justified in concluding that the supply of this reservoir would be most abundant. As to quality, it should be exceptionally fine, with all the characteristics of Crownest water, as the entire basin is uninhabited and unused, all rocky woodland, almost entirely on the reservation, and hence subject to control.

If necessary or desirable the surplus water from the Cascades and Crownest can be piped to the Fort Putnam site at nominal expense, using the pipe line provided for distributing purposes.

As regards the supply, then, I consider that the advantage is rather with the Fort Putnam site, though either site would be satisfactory.

War 52.2

In other respects the two sites compare as follows:

	Fort Putnam.	Public meadow.
1	Length of dam, 164 feet	650 feet; auxiliary low dam, 250 feet.
2	Height of dam above present site, 22 feet	21 feet; auxiliary dam, 4 feet.
3	Height of dam above foundations, 25 feet	Uncertain; upwards of 24 feet.
4	Area submerged, 452,000 square feet	332,600 square feet; Round Pond is 495,000; Delafield is 83,000.
5	Contents of reservoir, 50,260,000 gallons	15,500,000.
6	Available contents, 40,000,000 gallons	12,700,000.
7	Length of pond formed, 1,175 feet	812 feet.
8	Greatest width of pond formed, 525 feet	700 feet.
9	Depth sufficient to prevent growth of objectionable algæ.	Depth insufficient.
10	Obstructs bck. road to Highland Falls	Obstructs road to Cornwall.
11	Site for dam very favorable as to foundation	Unfavorable as to foundation, springs, and large bowlders.
12	Leakage should be slight with so short a dam	Leakage likely to be greater (long dams).
13	Material for construction abundant and near	Material for construction abundant and near.
14	Available as ice pond	Not available as ice pond.
15	Site now worthless	Site needed as pasture (very scarce on the post).
16	20,000 cubic yards of mud excavated in cleaning can be syphoned out and distributed by hydraulic process over flat near railroad, converting same into a meadow.	Mud excavated not available on account of distance.
17	Lake instead of present swamp; improvement of the post.	Not so great an improvement in this particular.
18	Storage capacity can readily be increased 33 per cent by raising proposed dam 5 feet and constructing dam 50 feet long at upper end.	Does not readily admit of increase by raising dam, as auxiliary dam 400 feet long would be required.
19	Would furnish ample pressure at south end of post.	No improvement in this respect.
20	Would require 3,000 feet pipe line to connect with present system.	Would require 2,000 feet of pipe line to connect with present system.
21	Estimated cost:	Estimated cost:
	Excavation for foundations, 650 cubic yards, at 20 cents $130.00	1,550 cubic yards, at 20 cents $310.00
	Excavation of drain for same 50.00	1,550 cubic yards, at 20 cents 200.00
	Excavation 20,000 cubic yards mud cleaning, at 10 cents 2,000.00	5,000 cubic yards, at 10 cents 500.00
	6,000 cubic yards earthen dam, at 40 cts 2,400.00	20,000 cubic yards, at 40 cents 8,000.00
	3,000 feet 6-inch pipe to water-house, at $1.50 ..... 4,500.00	2,000 feet 6-inch pipe, at $1.50 .... 3,000.00
	Laying same, at 50 cents 1,500.00	Laying same, at 50 cents 1,000.00
	Contingencies, 15 per cent 1,537.00	Contingencies, 15 per cent 1,952.00
	Total 12,167.00	14,962.00

Round pond and pipe line cost $40,000.

For the reasons above outlined I would respectfully submit, as the best plan for increasing the water supply of the post, the deflection of the brook in the Kinsley orchard and the construction of a storage reservoir on the site near Fort Putnam, at an estimated cost of $12,167.

Very respectfully, your obedient servant,

GEO. MCC. DERBY,
Captain of Engineers, in charge of Water Supply.

HEADQUARTERS UNITED STATES MILITARY ACADEMY,
OFFICE TREASURER, QUARTERMASTER, AND COMMISSARY CADETS,
West Point, N. Y., July 13, 1892.

The ADJUTANT OF THE UNITED STATES MILITARY ACADEMY,
West Point, N. Y.:

SIR: In obedience to your communication of the 6th instant, I have the honor to submit the following relative to my duties as treasurer of the Military Academy, quartermaster and commissary of cadets for the fiscal year ending June 30, 1892, referring to each duty under its proper heading, namely:

TREASURER OF THE MILITARY ACADEMY.

In January last the treasurer's office was moved from the headquarters United States Military Academy building to the cadet quartermaster's department building. This change has been of great practical advantage, since the treasurer's office, cadet store, the cloth cutters', tailor, and shoe-repairing shops, being now all under one roof near the cadet barracks, the transaction of business with cadets and others is facilitated and expedited.

The business of the treasurer's office during the year necessitated twenty-six separate accounts, namely:

1 Assistant treasurer of the United States, New York.
2. Balances paid.
3. Barber.
4. Cadet cash.
5. Cadet hospital.
6. Cadet laundry.
7. Cadet quartermaster's department.
8. Cadet subsistence department.
9. Confectioner.
10. Corps of Cadets.
11. Damages, ordnance, and stoppages.
12. Dancing.
13. Dentist.
14. Deposits.
15. Dialectic Society.
16. Equipment fund.
17. Expressage.
18. Gas fund.
19. Hops and german.
20. Miscellaneous fund.
21. Miscellaneous items.
22. Oaths.
23. Paymaster.
24. Periodicals.
25. Photographer.
26. Policing barracks.

The statement of the treasurer U. S. Military Academy, dated May 19, 1891, which was the last made prior to the expiration of the fiscal year 1890–'91, was as follows:

Statement No. 1.

	Amount.		Amount.
ASSETS.		LIABILITIES.	
Deposited with the assistant treasurer United States, New York	$29,715.84	Cadet hospital	$8.38
Due from paymaster	90.00	Cadet laundry	5,541.23
Invested in United States bonds	20,000.00	Cadet quartermaster's department	1,898.64
Cash on hand	1,799.23	Cadet subsistence department	687.82
		Corps of Cadets	11,571.51
		Deposits	190.00
		Dialectic society	18.75
		Equipment fund	31,644.00
		Miscellaneous fund	4.02
		Miscellaneous items	6.32
		Policing barracks	34.40
Total	51,605.07	Total	51,605.07

The following statement of receipts and disbursements under each account exhibits the totals of such receipts and disbursements between May 19, 1891, the date of Statement No. 1, and May 16, 1892, the date of the last statement prepared in this office, six bimonthly statements having been made during the year, namely:

Statement No. 2.

		Receipts.	Disbursements.
1	Assistant treasurer—checks drawn	$152,280.24	$153,398.77
2	Balances paid	18,759.10	18,759.10
3	Barber	540.25	540.25
4	Cadet cash	12,238.56	12,238.56
5	Cadet hospital	1,920.23	1,928.61
6	Cadet laundry	8,362.37	9,384.21
7	Cadet quartermaster's department	69,868.86	65,053.44
8	Cadet subsistence department	53,845.95	52,589.00
9	Confectioner	316.00	316.00
10	Corps of Cadets	178,527.69	177,923.16
11	Damages, ordnance, and stoppages	508.23	508.23
12	Dancing	602.00	602.00
13	Dentist	954.00	954.00
14	Deposits	17,208.42	17,173.42
15	Dialectic Society	450.70	445.10
16	Equipment fund	12,304.00	15,198.00
17	Expressage	44.20	44.20
18	Gas fund	1,255.90	1,255.90
19	Hops and german	1,641.17	1,641.17
20	Miscellaneous fund	41.95	28.00
21	Miscellaneous items	715.40	762.51
22	Oaths	24.00	24.00
23	Paymaster	149,544.27	149,454.27
24	Periodicals	92.00	92.00
25	Photographer	54.00	54.00
26	Policing barracks	5,832.00	5,866.63
	Total	687,931.72	686,234.53

It will be observed that accounts Nos. 2, 3, 4, 5, 6, 9, 11, 12, 13, 17, 18, 19, 22, 23, 24, and 25 appear and disappear in the above Statement No. 2, no balances being carried. From this statement it will be observed that cadets expended for—

Hair-cutting, etc	$540.20
Support of the cadet hospital	1,928.61
Confectioner	316.00
Dentistry	954.00
Expressage	44.20
Gas and gas fixtures	1,255.90
Hops and german	1,641.17
Oaths	24.00
Periodicals	92.00
Photographs	54.00
Policing barracks, etc	5,866.63

The cost of waste paper used in cadet sinks, candles consumed in camp, blacking, brushes, and matches being included in the sum charged against policing barracks. The service pay roll of the men employed in policing barracks was, for the year, $4,950.

The receipts of the laundry accrued principally from cadets. The expenditures for the laundry being greater than the receipts, it is to be accounted for by the fact that certain expenditures for repairs and machinery were charged against the laundry fund. This fund under the present system of charges for laundry work will never increase, but will diminish, as it is subjected to necessary expenditures which are unprovided for by Congressional appropriations.

The following is the statement of the treasurer at date of the last settlement and inspection of his accounts, May 16, 1892:

Statement No. 3.

	Amount.		Amount.
ASSETS.		LIABILITIES.	
Deposited with the Assistant Treasurer United States, New York	$30,834.37	Cadet laundry	$4,519.39
Miscellaneous items to be charged	40.79	Cadet quartermaster's department	6,714.06
Invested in United States bonds	20,000.00	Cadet subsistence department	1,944.77
Cash on hand in office safe	3,496.42	Corps of Cadets	12,176.04
		Deposits	225.00
		Dialectic Society	24.35
		Equipment fund	28,750.00
		Miscellaneous fund	17.97
Total	54,371.58	Total	54,371.58

The amount of the equipment fund, as given above, was reduced to $16,810 when settlement was made in June with this year's graduating class.

The subcommittee of the Board of Visitors for this year inspected the books and systems of accounts of the treasurer's office, and left the impression that it was well pleased.

CADET QUARTERMASTER'S DEPARTMENT.

The capacity of the cadet quartermaster's department building was doubled on the completion, in January last, of the addition erected by contract, and paid for by a Congressional appropriation, and it is now ample for the business necessary, should any increase in the corps, not exceeding 50 per cent, be made.

The arrangement of offices, workshops, and storerooms gives great satisfaction. The two rooms occupied by the treasurer are the rooms on the main floor, old part, which formerly were the storerooms.

On this same floor two neatly but plainly furnished rooms have been set apart as dressing rooms for cadets trying on clothing. The store occupies the basement and main floor of the new part and cadets are now served over a counter instead of through a window as formerly.

The workshops are on the second floor, old and new part, and are well arranged for their purposes. Every garment issued to cadets is inspected by an officer of the tactical department whose acceptance or rejection of the article determines the question of acceptance between the department and the person making the garment, as well, in case of acceptance, of any question which might subsequently arise as to

the fit of the garment. By such an inspection perfect uniformity in all articles of clothing is obtained and the commandant of cadets becomes responsible for the appearance of his command. Facilities for marking all articles of furniture and bedding, and for stamping their names on the visor of forage caps and dress hats are at the convenience of all cadets. The plan inaugurated this year of preparing the blouses, flannel and white trousers, shoes, caps, helmets, and dress hats for new cadets prior to their reporting from measurements furnished by them in March last, after passing the preliminary examination and the issuing of such articles immediately upon their reporting in June, was eminently successful. The experience gained this year in this matter will render the work less difficult hereafter. It is expected that by August 1 the new cadets will be completely equipped. During the year ending June 30 last the department manufactured 194 dress coats, 116 overcoats, 450 gray blouses, 72 white jackets, 551 gray trousers, 971 white trousers, 77 flannel trousers, 58 tennis trousers, 50 officers' trousers, 84 civilian trousers for officers, graduates and furloughmen, 85 civilian coats, 80 civilian vests, 24 officers' blouses, 6 officers' dress coats, 9 officers' overcoats, 9 officers' capes, 58 riding trousers, and 35 waiter jackets. There was repaired during the year 355 dress coats, 270 overcoats, 595 gray blouses, 85 civilian suits, 477 pairs gloves, 2,439 pairs socks (repaired and tags sewed on) 338 pairs chevrons sewed on, 2,218 pairs trousers, and 1,471 pairs shoes.

The work of the department goes smoothly on to the satisfaction, I have reason to believe, of the cadets for whom we labor. Much satisfaction was expressed by the president and members of the Board of Visitors of the working of the department when the Board as a body visited the same in June last.

CADET SUBSISTENCE DEPARTMENT.

All supplies are purchased in open market as they are needed. Meats, butter, and groceries are ordered weekly. Flour is purchased in quantities sufficient to last two months. Fruits and other perishable articles when required. All supplies are received and cared for by a commissary-sergeant, U. S. Army, detailed for duty in the cadet subsistence department. A return of provisions, furniture, etc., received, issued, and remaining on hand is made out every two months. This return shows everything that has been received, when received, from whom purchased, and cost thereof; everything expended, all sales of bread to officers and others living at the Academy, sales of scrap food, soap grease, etc.

The period covered by a return is termed a settlement. A settlement covers the period embraced in two calendar months, and always in that period for which the corps is mustered, and which is the same as the muster of troops, occurring at end of February, April, June, August, October, and December.

Thus there are six settlements per year.

The subvouchers for this return are: (1) The original invoice of supplies purchased. (2) Daily issues of provisions at the cadet mess. (3) Daily issues of contingent property, etc. (4) Daily issues to the cadet hospital. (5) Statement of sales (handed in daily to office). The reverse side of this blank exhibits all stores received during the previous day to that on which it is handed in. As invoices are kept in the office, receipts of stores can be, and are, compared with them. (6) Pay roll of employés.

When a return is made up, a board of officers, denominated the board of audit, consisting of the commandant of cadets and the senior and junior tactical officers, convenes according to regulations, and examines vouchers and approves or disapproves of same, and determines, upon consultation with the commissary of cadets, the amount for board each cadet shall be charged for the two months.

When the corps is large and the cost is proportionally small, cadets are usually charged slightly more than the actual cost of board, and the overcharge is placed to the credit of the mess fund. Again, when the corps is small and the cost of board proportionately large, which is usually the case after the January examination and until the arrival of the new cadets in June, the amount usually charged each cadet is slightly less than the actual cost, and the difference is charged against the mess fund.

During the year the amount charged varies from the actual cost but slightly, whilst the cadet is charged settlement after settlement about the same price for subsistence, enabling him to calculate closely upon certain proportions of his pay which will be available for other needs. The board of audit having acted upon the return, and having signed their proceedings, which then becomes part of the return, it is submitted to the Superintendent of the Academy for his action.

The return having received the approval of the Superintendent, the treasurer settles all accounts by check on the assistant treasurer of the United States, New York, taking a receipt therefor on the face of the voucher showing the purchases.

The labor of the department is divided as follows:

(1) All clerical labor appertaining to invoices, vouchers therefor, return, etc., is performed in this office (treasurer's).

(2) The commissary sergeant keeps record of supplies received, expended, and remaining on hand, taking an inventory at end of each month, or oftener if desirable, and has charge of all supplies except the fresh meats, milk, and other supplies which necessarily are kept in the refrigerator.

(3) One chief baker and one assistant bake all breads, cakes, and pies.

(4) One "chef," with one assistant, one scullion, and one scrubbing girl, prepares and cooks all meats, vegetables, soups, side dishes—in fact, everything except the bread, as above noted, and coffee and tea. He carves all meats in the kitchen before sending them to the table, places the same on platters, giving to each platter, when roast beef is served, such proportions of rare or well-done meats as the waiters, who, knowing the wants of their tables, ask for. Such carving diminishes waste, since the "chef" properly cares for all odds and ends, bones, etc. He keeps the soup-stock boiler in constant operation, placing therein all suitable bones, scrap meats, unconsumed drippings, etc. He renders all beef-kidney fat; the cracklings therefrom are deposited with the soap fat, while the rendered fat is placed in empty butter tubs, and stored for future use in cooking French fried potatoes and the many other articles which require to be fried in beef fat. This rendered beef fat (tallow), being pure, can be used in a great variety of ways in cooking as a substitute for lard or butter.

The fresh meats are all State killed. Each quarter of beef has a tag attached showing date of killing, etc. Four different brands of flour are used in each batch of bread and in all bakings. One brand possesses strength, another sweetness, another body, and another color, or some other quality different from the other brands.

From such a combination the most satisfactory results are obtained. A menu, the result of a consultation betwixt the "chef" and commissary, is made in the afternoon daily for dinner and supper the following day and for breakfast second morning following.

This plan affords the "chef" ample time to make his arrangements ahead and to enable the commissary to vary the menu daily and to keep well informed as to expenditures. Formerly it was considered the correct plan to have a menu prepared which would for an indefinite future inform cadets of the articles of diet at each meal every day of the week, week in and week out. As they always knew before going to the hall what they would have, after getting there their appetites were impaired by such knowledge. Under the present plan they never know previous to entering the hall what they will have, and their appetites are good, not having been killed by the disgust engendered from long fore knowledge of certain and perhaps disliked dishes which they would encounter at specified meals. The commissary has no regular times for making inspections. He is certain to be at the mess at meal times, and liable to drop in at any time. Visitors are admitted at all times and into every part of the establishment; their presence is an assistance, inasmuch as it causes the employés to always have the place in perfect order, ready for inspection. Thorough and complete cleanliness in every place, visible and invisible, is insisted upon. Only the best of provisions are purchased. Coffee, which is half Java and half Mocha, is used. The Eureka tea and coffee urns are used in making tea and coffee. These are conveniently located near the hall, and are under the especial charge of the head waiter.

When the tea and coffee are ready for the tables, urns holding sufficient of each to supply tables seating ten men each are filled and placed upon the table. In cold weather and when necessary lighted spirit lamps are placed under the urns on the tables.

The crockery used is the white American hotel china, which costs about the same as the best white English earthen or stone ware. The food is served in three courses: First, soup; second, meats and vegetables; third, dessert. All food not consumed in the hall is carried out and turned over to the "chef," who disposes of it by serving it out to the employés and by placing surplus in the refrigerator.

The scraps of food which are left on the plates (an inconsiderable quantity) are taken care of by the head waiter and sold to indigent persons, who gladly seek it daily.

No employé has any perquisite outside of his wages and board. Liberal wages are paid, to the end that employés will have the interest of the department at heart, and, by practicing economy, insure the continuance of their positions and wages.

The cadet mess hall, its kitchens, bakery, and dormitories, are all in good condition. As heretofore, an effort is constantly made to furnish the cadets with wholesome, well-cooked food in variety such as the New York market affords, the cost on the average, including all expenses for service and transportation, not to exceed $15 to $15.50 per cadet per month.

The following exhibits, per settlement, the number of cadets subsisted during the year, the actual cost of board, the sum charged each cadet as recommended by the Board of Audit, the total cost per cadet for the year, and the cost per cadet per month and per day:

Settlement of—	Average number of cadets present.	Actual cost.	Amount charged.
1891.			
July and August	226.65	$33.00	$33.00
September and October	284.57	29.76	31.00
November and December	279.54	30.01	30.00
1892.			
January and February	255.68	28.41	28.00
March and April	248.54	29.81	30.00
May and June	236.10	30.04	29.03
Total cost for the year, etc		181.03	181.03
Cost per cadet per month		15.08	15.08
Cost per cadet per day (365 days to the year)		49.6	49.6

The prospects are promising that the cadet garden will yield this year an excellent crop of vegetables.

CADET LAUNDRY.

The laundry building is in excellent condition. The machinery is in good order, and is serviceable, though two of the washing machines are much worn. The working force during the winter consists of 12 persons, namely: 1 superintendent and engineer: 1 fireman, driver of delivery wagon, etc.; 1 wringer, who operates the two wringing machines; 1 matron, who operates the washing machines; 1 chief mangler; 2 assistant manglers; 1 collar and cuff ironer; 4 laundresses.

The working force during the summer consists of the above and 20 laundresses additional. The expenses of operating the laundry is divided proportionally among all cadets present. This manner of defraying the expenses commenced with the January and February settlement 1892, for which settlement each cadet was charged $1.95 per month.

For the March and April settlement the charge was $1.65 per cadet per month. For the May and June settlement the charge was $3.25 per cadet per month.

I inclose herewith a copy of the regulations governing the laundry employes.

During the year ending June 30, 1892, the following articles were laundried, namely:

Articles.	Number.	Articles.	Number.
Clothes bags	4,182	Cuffs, pairs	39,895
Sheets	19,852	Collars	78,490
Pillowcases	12,228	Shoulder belts	15,245
White shirts	15,767	Waist belts	15,182
Night shirts	10,964	Sword belts	2,893
Undershirts	33,508	Gray trousers	284
Drawers	30,741	Gray jackets	81
White trousers	36,288	Blankets, single	334
White jackets	2,141	Spreads	69
Towels	56,213	Bathing suits	71
Socks, pairs	34,701	Vests	2
Gloves, pairs	36,699		
Handkerchiefs	62,835	Total	508,165

Very respectfully, your obedient servant,

WM. F. SPURGIN,

Captain, Twenty-first Infantry, Treasurer of the Military Academy, Quartermaster and Commissary of Cadets.

Employés of the cadet laundry and their duties.

WINTER ARRANGEMENT.

No.	Designation.	Duties.
1	Superintendent and engineer...	Who will be responsible for the proper working of the laundry in every respect, and the strict enforcement of all regulations.
2	Fireman, driver, etc.....	Who will be responsible for the fires in the boiler room and irons heating room; for the prompt collection and delivery of cadets' clothing and mess linen; for the proper care of the horse, wagon, and harness connected with the laundry, and for such other work as may be required of him by the superintendent of the laundry.
3	Matron	Who will operate the washing machines, and will be responsible for the prompt and proper washing, rinsing, and blueing of all articles; for the cleanliness of the machines and their surroundings and for the condition of the wash tubs. When not busy at the machines or tubs, she will assist in assorting soiled clothing, in hanging up washed articles, or in doing anything else at hand requiring to be done, or as the superintendent may direct.
4	Wringer.....	Who will operate the wringers, wringing out all articles as soon as they are removed from the washers and conveying them to the starcher, mangle, or drying room, according to their destination. When delivered at the drying room to hang them up therein. When at the mangle, to shake them out and prepare them for the mangle. His attention will he given first to the wringers, next to hanging up, next to the preparation of articles for the mangle. When not employed as above stated, he will be available for folding or any other work ordered by the superintendent.
5	Chief mangler	Who will operate the steam mangle, be responsible for its cleanliness and care, and that it is kept running as long as there is any work for it to perform, She with her assistants will collect articles from the drying room, mangle them, and convey them to the distributing room. When the mangle is not running, she and her assistants will distribute articles in the delivery room, or do any other work required by the superintendent.
6	Assistant mangler.....	Will assist the chief mangler, and will perform such other work as may be required by the superintendent.
7	.....do	The same as No. 6.
8	Collars and cuffs ironer.....	Will operate the collars and cuffs dampener, the collars and cuffs ironer, and the collars and cuffs shaper, and will in addition perform any other work required of her by the superintendent.
9, 10, 11, 12	Laundresses.....	The laundresses will assist in assorting soiled clothing, will make the starch as directed by the superintendent, will do all of the starching, will hang up in the drying room all starched articles, will do all of the ironing required by hand, will daily police the entire building, and will perform such other work as may be required of them by the superintendent.

All employés will be promptly on hand, ready to commence work when the whistle blows. Only such employés as give active, honest, and intelligent efforts in return for the liberal wages paid them will be retained. It must be distinctly understood that all persons employed at the laundry will be required to perform at any time any duty necessitating their assistance.

SUMMER ARRANGEMENT.

The summer arrangement will be the same as the winter arrangement, necessary additional laundresses being temporarily employed during the white clothing season.

WORKING PLAN, WINTER.

The mess linen will be washed and mangled the first thing each morning and will be delivered at mess by 12 o'clock meridian each day.

All employés will assist in assorting cadets' soiled clothing as soon as the same is received at the laundry on designated days.

Articles will be washed in the following order, viz: mess linen, collars, cuffs, handkerchiefs, belts, gloves, white shirts, night shirts, socks, drawers, undershirts, pillowcases, sheets, towels, spreads, flannels, blankets, and gray trousers.

As soon as the mess linen is washed No. 4 will put it through the wringer and deliver it at the mangle. Nos, 5, 6, and 7 will mangle and fold it, assisted in folding by No. 4 or some other available person, preferably by No. 4.

The collars, cuffs, handkerchiefs, belts, and white shirts, having been washed, rinsed, blued, and wrung out, will be disposed of as follows: The shirts will be hung up in the drying room by No. 1. Nos. 8, 9, 10, 11, and 12 will starch the collars, cuffs, and belts, and will hang them up in the drying room and will then commence the ironing of the shirts and other articles.

As fast as articles are finished they will be placed on the tables in the distributing room. Nos. 5, 6, and 7, when not running the mangle, will distribute laundried articles to their proper boxes. When all articles have been distributed, all employés not otherwise engaged under the superintendent's orders, will assist in making up the bundles ready for shipment to the barracks.

At fifteen minutes before cessation of work each day, Nos. 8, 9, 10, 11, and 12 will police the laundry and place it in complete order.

The laundry will run from 8 a. m. until 4:30 p. m. daily, with one hour's cessation from work from 12 to 1 at noon, during which time the washing machines will be kept in operation if there are articles to be washed.

All work will be completed and delivered by noon on Saturday, at which time the laundry will be shut down for the week.

WORKING PLAN, SUMMER.

The same as above, the white clothing to be washed immediately after the mess linen, in numbers sufficient to keep the starchers and ironers employed, and not to interfere with the preparation of work for the mangle.

The working hours in summer will be increased to meet the necessities of the season and the closing of the laundry at noon on Saturdays.

WM. F. SPURGIN,
Captain, Twenty-first Infantry, Treasurer U. S. Military Academy, Quartermaster and Commissary of Cadets.

Approved:
JOHN M. WILSON,
Colonel of Engineers, Superintendent.

CADET HOSPITAL, U. S. MILITARY ACADEMY,
West Point, N. Y., August 20, 1892.

The POST ADJUTANT:

SIR: In compliance with instructions from your office I have the honor to submit the following annual report concerning the condition and work of the medical department of the United States Military Academy and post of West Point for the fiscal year ending June 30, 1892.

The following medical officers were on duty at the post during the year for the periods set opposite their respective names, viz:

(1) Maj. Henry McElderry, surgeon, U. S. Army, July 1, 1891, to June 30, 1892; absent on detached duty during the month of October, 1891, as member of Army medical examining board, New York City (S. O. No. 206, A. G. O., c. s. 1891).

(2) Capt. William Fitzhugh Carter, assistant surgeon, U. S. Army, July 1, 1891, to January 23, 1892. (Relieved, S. O. No. 10, A. G. O., c. s., 1892.)

(3) Acting Asst. Surg. Wm. Penn Compton, U. S. Army, July 1, 1891, to November 1, 1891 (contract annulled by letter from Surgeon General's Office dated October 16, 1891).

(4) Capt. H. S. Kilbourne, assistant surgeon, U. S. Army, January 23, 1892, to June 30, 1892. (S. O. No. 10, A. G. O. c. s. 1892); absent on detached duty as member of Army medical examining board, New York City, from April 1 to 27, 1892. (S. O. No. 56, A. G. O., c. s. 1892.)

(5) Capt. C. N. Berkeley Macauley, assistant surgeon, U. S. Army, March 31, 1892, to April 30, 1892, during absence of Capt. Kilbourne. (S. O. No. 56, A. G. O., c. s. 1892.)

Dr. G. Herbert Brown, of Highland Falls, N. Y., was employed to take charge of the soldiers' hospital from January 13 to 22, 1892, both dates inclusive, during the absence on leave of Capt. William Fitzhugh Carter, assistant surgeon, per authority of indorsement dated Surgeon-General's Office, Washington, November 13, 1891, and by verbal authority and permission of the Superintendent under paragraph 1636, Army Regulations.

The duties of the medical officers have been divided during the year generally as follows:

The post surgeon has charge of the cadet hospital and cadet sick call, of the general administrative affairs of the medical department of the Academy and post. He also has the professional charge and care of such officers and their families as may call on him for professional advice and treatment.

A large part of his time is necessarily taken up with the examination of the eyes of those cadets who have refractive and muscular errors, and who suffer in consequence from eyestrain—for the purpose of fitting them with suitable glasses for studying.

The assistant surgeon has charge of the soldiers' hospital, of enlisted men sick in quarters, and of their families, of civilian employés, and of such officers and their families as may call on him for professional advice and treatment.

He also has charge of the physical examination of recruits and of men for reënlistment for the engineer company, and for the various detachments at the post, and of the weekly drill and instruction of members of the Hospital Corps.

The monthly sanitary inspections of the post required by paragraph 1642, Army *Regulations,* are divided each month between the two senior medical officers, the

post surgeon having sanitary supervision of the officers' quarters, cadet barracks, etc., on the plain, and the assistant surgeon of the soldiers' barracks and of that part of the post occupied by the enlisted men and their families.

The following statement shows the average daily strength of the command for the year:

Officers	52.67
Cadets	272.50
Enlisted men	348.08
Total command	673.25
Civilians (officers and soldiers' families, employés and their families): males, 60; females, 302; children, 311	673.00
Grand total for the post	1,346.25

The following statement shows the number of cases treated during the year:

Officers: Injuries, 0; diseases, 27	27
Cadets in hospital: Injuries, 73; diseases, 395	468
Cadets treated in quarters and excused from some duty	3,075
Cadets treated in quarters and excused from no duty	1,118
Enlisted men treated in hospital and quarters: Injuries, 88; diseases, 339	427
Civilians living on reservation (officers and soldiers' families and employés and their families): Injuries, 29; diseases, 972	1,001
Grand total for post	6,116

The appended tables, marked A, B, C, D, E, and F, show the character of the diseases treated on the post during the year—among officers (A); cadets in hospital (B); enlisted men (C), and civilians (D and E).

Table F is a recapitulation of specific febrile and acute infectious diseases and malarial fevers treated on the post of West Point during the fiscal year. There was 1 death among the Corps of Cadets during the year, that of Cadet George H. Myer, fourth class, on May 14, 1892, from acute inflammation of the heart (endocarditis), complicating acute articular rheumatism.

There was 1 death among the enlisted men during the year, that of Private James B. Rogers, cavalry detachment, age, 19½ years; American; "accidentally drowned in Hudson River about January 24, 1892, opposite West Point, N. Y.; while skating broke through ice; body not recovered."

There were 10 deaths from diseases among civilians living on the reservation during the year, as shown in appended tables marked D and E.

While none of these deaths are reported as directly due to influenza, it is probable that the depressing effects of this disease, which has prevailed at the post during the year, have had a very marked influence on the increased death rate of this post for the past fiscal year, as it undoubtedly has had on that of the country at large.

Besides the deaths reported on appended tables there was a civilian died at the soldiers' hospital about 5:15 a. m., May 8, 1892, from fracture of the base of the skull and consequent cerebral hemorrhage, due to an accidental fall on his head from a fast-moving West Shore passenger railroad train just above the post. The man was found lying unconscious on a truck on the platform of the West Shore depot and was admitted to hospital 7:45 p. m., May 7, 1892, as an act of humanity by authority of the Superintendent upon the recommendation of the post surgeon. His friends accompanying him gave his name as Mr. Rudolf W. Saermandt, No. 86 Quincy street, Brooklyn, N. Y.

Twenty births are recorded as having taken place on the post during the year, 7 being in officers' families and the remaining 13 among soldiers' families.

Four thousand one hundred and sixty-one prescriptions were put up at the cadet hospital during the year and 2,895 at the soldiers' hospital for the same period, being 7,056 for the post.

One hundred and ninety-four men were examined during the year by the medical officer in charge of the soldiers' hospital as to their physical qualifications for enlistment as recruits or for reënlistment. One hundred and forty-nine vaccinations and 125 revaccinations were performed at the post during the year, the entire fourth class Corps of Cadets being critically examined as to their vaccination marks, and all those not having recent marks being vaccinated or revaccinated.

Estimates have been prepared and forwarded during the year for the annual repairs to cadet hospital ($970.99); for additions to and for improvement of grounds of the new soldiers' hospital ($1,995.50), and for construction of a set of hospital steward's quarters near the new soldiers' hospital ($2,645.20).

Since the annullment of the contract of Acting Assist. Surg. Compton on November 1, 1891, two medical officers only have been on duty at the post.

Shortly after the annullment of Dr. Compton's contract an official application was

forwarded, through the regular military channels, by the present post surgeon, requesting that another medical officer might be assigned to duty at the post to take Dr. Compton's place.

Nothing having been heard from this application, a communication was recently addressed to the Superintendent requesting that he take such measures as might be deemed by him most expedient and suitable to insure the assignment of an additional medical officer at the post before the commencement of the coming academic year, when the busy season for the medical department will again recommence at West Point.

Owing to the amount and special character of the work required of and properly pretaining to the medical department at West Point, the services of at least three medical officers of the Army are needed at the post during the entire year, except possibly during a few weeks in summer, when most of the officers and many of the cadets are away on leave.

It is therefore earnestly hoped that proper steps may be taken to insure the permanent assignment of the additional medical officer asked for and much needed at the post.

There is another measure pertaining to the medical department of the U. S. Military Academy and post of West Point which the post surgeon considers it his duty, in justice to his own department, to recommend in this report, and which he fully believes only needs mentioning to commend itself to the impartial sense of justice and fairness of the present Superintendent. This recommendation is as follows: That owing to the increased amount of work and the specialized character of the duties devolving upon the medical officer occupying the position of post surgeon at West Point, he should, while on such detail, receive the increased rank and pay of a lieutenant-colonel.

It is believed that every argument which was used for bestowing an additional grade and pay upon the Superintendent, commandant of cadets, cadet quartermaster, etc., and assistant instructors at West Point would, in common justice and fair play to the medical department, also entitle the senior medical officer in that department on duty at the post to such additional grade and emolument.

The dispensing of medicines, clerical work, nursing, and cooking at the cadet and soldier's hospitals have been well and satisfactorily performed during the year by members of the hospital corps on duty at the post.

The post surgeon takes this opportunity to express his thanks to his assistants for the intelligent and satisfactory manner in which they have performed their duties during the year.

The post surgeon also desires to again express his indebtedness to the Superintendent for his uniform courtesy and cordial support of the recommendations of himself and his assistants during the year tending to the improvement of the sanitary condition of the post.

Very respectfully, your obedient servant,

HENRY MCELDERRY,
Major and Surgeon, U. S. Army, Post Surgeon.

A.—*Summary of diseases and injuries treated among officers at West Point, N. Y., during the fiscal year ending June 30, 1892.*

Diseases.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Influenza	....	....	....	....	....	4	8	1	2	2	....	1	18
Neuralgia	....	....	....	....	....	....	....	1	....	....	....	....	1
Acute tonsilitis	....	....	....	....	....	....	....	....	1	....	....	....	1
Boils	....	....	....	....	....	....	....	....	1	....	....	....	1
Diphtheria, acute	....	....	....	....	....	....	....	....	....	1	....	....	1
Intermittent fever	....	....	....	....	....	....	....	....	....	1	....	....	1
Insomnia	....	....	....	....	....	....	....	....	....	1	....	....	1
Septic fever	....	....	....	....	....	....	....	....	....	1	....	....	1
Remittent fever	....	....	....	....	....	....	....	....	....	....	1	....	1
Myalgia— muscular rheumatism	....	....	....	....	....	....	....	....	....	....	1	....	1
Total	....	....	....	....	....	4	8	2	4	6	2	1	27

No deaths.

I certify that the above is a correct and true summary as shown by the records of this hospital.

HENRY MCELDERRY,
Major and Surgeon, U. S. Army, Post Surgeon.

CADET HOSPITAL, U. S. MILITARY ACADEMY,
West Point, N. Y., July 20, 1892.

B.—*Summary of diseases, wounds, and injuries occurring among the Corps of Cadets, United States Military Academy, and treated in hospital at West Point, N. Y., during the fiscal year ending June 30, 1892.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Diseases.													
Enteric (typhoid) fever			1										1
Influenza						16	69	47	12	2			146
Malarial fever		1	3	2	2					2	11	6	27
Diarrhœa, acute	1	8	2										11
Diseases of the genito-urinary apparatus	1	1											2
Vaccina									7				7
Acute articular rheumatism										1			1
Muscular rheumatism (myalgia)	1						1						2
Headache and neuralgia	1	1	3			4		1	3	1	1		15
Other diseases of the nervous system	1								1			2	4
Diseases of the eye	5	5	14		4	3	2	5	9	19	6	1	73
Diseases of the ear	2												2
Catarrh and common colds	1		2		1	2	1		3	2	2		14
Bronchitis, acute and subacute								1		1			2
Pneumonia		1											1
Other diseases of the respiratory system	1		1										2
Diseases of the circulatory system		1											1
Tonsilitis, acute and subacute	2	1	2		2	2	6	4		11		1	31
Dyspepsia, colic and constipation	1	6		2	1	1	2	1	4	5	3		26
Diseases of the integumentary system	2	1	2			1	1	1		1	1		10
Hemorrhoids							1						1
Heat exhaustion		12									1	3	16
Total diseases	19	38	30	4	10	29	83	60	39	45	25	13	395
Wounds and injuries.													
Sprains	1	3	1		3	2	2	4		1	6	1	24
Boils	5	1	2	1	2	5	3	1		3	2		25
Concussion of the brain and spine	1	1		1						1			4
Contusions	1	2	1		5		1	2		2	2		16
Lacerated wounds	1												1
Simple fractures					1		1		1				3
Total wounds and injuries	9	7	4	2	11	7	7	7	1	7	10	1	73
Total diseases, wounds, and injuries	28	45	34	6	21	36	90	67	40	52	35	14	468

Deaths, 1. Cadet George H. Myer, May 14, 1892, from acute inflammation of the heart, complicating acute articular rheumatism.

I certify that the above is a correct and true summary as shown by the records of this hospital.

HENRY MCELDERRY,
Major and Surgeon, U. S. Army, Post Surgeon.

CADET HOSPITAL, U. S. MILITARY ACADEMY,
West Point, N. Y., July 20, 1892.

C.—*Summary of diseases and injuries treated among civilians (soldiers' families, civilian employés and their families) during fiscal year ending June 30, 1892, with deaths.*

Months	July.			Aug.			Sept.			Oct.			Nov.			Dec.			Jan.			Feb.			Mar.			Apr.			May.			June.			
Diseases.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult females.	Children.	Adult females.	Children.	Adult females.	Children.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult females.	Children.	Total.
Abscess			1		2																																3
Acute blepharitis																									1												1
bronchial catarrh			1				1	4			4	1	4			1						2	2	3	2						1	6					31
bronchitis			4						1			1	3						3	1			1					5				1					20
conjunctivitis											1								1			1												1			4
cystitis																												1						1			2
diarrhœa	1	3	13	1	3	5	3	9									1			1		1	1	1	1											1	45
indigestion						1						1							1	2			1										3				9
intestinal obstruction																															1						1
spinal meningitis																																				1	1
stomatitis																																				1	1
Amenorrhœa					1																																1
Anæmia																1				1				2										1			5
Antepartum hemorrhage																												1									1
Apthæ											1																										1
Asphyxia																																1					1
Carbuncle							1																														1
Carcinoma																			1																		1
Catarrh middle ear																							1													1	2
Chickenpox								1																													1
Chilblains																							1														1
Cholera infantum																																				1	1
morbus			1																																		1
Colic, hepatic				1																																	1
infantile								1												1													1				3
intestinal					2		1				1	1																									5
Confinement												1				3			3												2			1			10
Constipation	1	9	7	2	4	2	7	6	3	1	3	3		3	3	1	4	2		3	2	1	2	1	1			3	1	1	2	78
Convulsions			1										1					1																			3
Coryza																		18		3	4	1			1	3				1	2					33
Croup																		2								1											3
Dentition						4																															4
Dermatitis								3		1																											4
Dysmenorrhœa																															1			1			2
Dyspepsia		1								1												2		1		1			1	1		1				9
Earache										1			1																								2
Eczema													1					1			1			2													5
Erysipelas													1																								1
Erythema																																	1				1
Felon												1				1																		2			4
General debility																												1						1			2
Headache		7	1		1	1	1	6	2	14		5		2	2		2	2		4	1	2			1	1				1	1	1	1	58
Heart failure																																		1			1
Herpes								1																													1
Hysteria																			1																		1
Incontinence of urine							1																														1
Influenza											3	4	1	5	12		7	10		1		2														45
Irritable heart											1																										1
Jaundice															1																						1
Lumbago		1	1			1		1																1													5
Malaria		9			9		5	1	2	2	2	2		2	5		1																				40
Measles																				5		1	2	2		2											10
Miscarriage					1		1																								1						3
Nasal catarrh		1			1						1	10								1											1						15
Nausea		1	3									3																									7
Neuralgia											1			1			2																	1			6
Palpitation of heart																															1						1
Pharyngitis								1			1																	1									3
Phthisis pulmonalis																1																					1
Pinworms								4				5			2			3																			16
Pneumonia																	1	1						1													3
Post-pharyngeal catarrh	2																					1	1	1		2					1						8
Prickly heat						1																															1
Prolapsus uteri																			1																		1

C.—*Summary of diseases and injuries treated among civilians (soldiers' families, civilian employés and their families) during the fiscal year ending June 30, 1892, with deaths*—Cont'd.

Months	July.			Aug.			Sept.			Oct.			Nov.			Dec.			Jan.			Feb.			Mar.			Apr.			May.			June.			
Diseases.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Adult males.	Adult females.	Children.	Total.
Retroversion	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Rheumatism	..	..	..	..	..	..	..	..	..	3	..	2	3	..	2	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	12
Rhus poisoning	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	4
Septicæmia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Simple fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Skin disease	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6
Tender nipples	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Threatened antepartum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...
Threatened eclampsia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Tinea capitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	2
Tonsilitis	..	..	..	..	..	..	..	..	1	..	3	..	5	..	..	..	..	2	..	1	1	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	15
Toothache	..	1	..	..	..	..	..	1	..	..	4	1	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	9
Typhoid fever	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Typho-malarial fever	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Ulcer	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Ulcerated womb	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Uterine hemorrhage	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Vaccina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Total diseases	5	35	32	4	25	14	25	40	11	34	25	56	1	23	31	1	29	53	1	23	19	15	13	1	11	14	1	14	17	16	9	598
Total wounds and injuries	..	5	3	..	1	1	..	..	..	1	..	5	..	1	2	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	21
Total diseases, wounds, and injuries	5	40	35	4	26	15	25	40	11	35	25	61	1	24	33	1	29	54	1	23	19	15	14	1	11	14	1	14	17	16	9	619
Deaths*	..	..	1	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	2	1	1	8

*Private James B. Rogers, U. S. Military Academy Detachment Cavalry, accidentally drowned in Hudson River, about January 24, 1892.

I certify that the above is a correct summary from the records of this hospital.

H. S. KILBOURNE,
Captain and Assistant Surgeon, U. S. Army,
In charge of Soldiers' Hospital.

SOLDIERS' HOSPITAL, U. S. MILITARY ACADEMY,
West Point, N. Y., July 20, 1892.

D.—*Summary of diseases, wounds, and injuries treated among civilians (officers' families, men, women, and children) at West Point, N. Y., during the fiscal year ending June 30, 1892, taken from the records of the cadet hospital.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Malarial diseases	....	5	3	....	3	....	....	....	....	2	1	6	20
Enthetic diseases	....	....	....	....	2	18	11	13	7	....	....	....	51
Constitutional diseases	....	2	1	1	1	....	1	4	3	3	3	2	21
Developmental diseases	....	....	1	....	....	....	....	4	2	1	1	....	9
Cancer of the breast	....	....	....	....	....	....	....	1	....	....	....	....	1
Nervous diseases	1	7	....	1	2	4	2	8	1	4	1	5	36
Diseases of the eye	1	3	....	....	....	1	1	....	....	2	....	1	9
Diseases of the ear	....	....	....	....	....	....	....	....	....	1	....	....	1
Diseases of the nose	....	....	....	....	....	....	1	....	1	....	....	....	2
Respiratory diseases	2	2	1	6	3	1	....	4	5	....	4	....	28
Diseases of the circulatory system	1	1	....	1	2	1	5	....	....	2	2	....	15
Diseases of the digestive system	11	16	2	12	16	14	8	12	15	8	7	6	127
Diseases of the lymphatic system	....	....	....	....	....	....	....	....	....	....	....	....	....
Diseases of the genito-urinary system	1	1	1	....	....	1	1	2	2	....	4	....	13
Diseases of the locomotor system	....	....	....	....	....	....	....	....	....	....	....	....	....
Diseases of the integumentary system	....	4	3	1	1	2	1	2	2	3	5	2	26
Results of injuries	....	2	....	....	2	1	....	....	2	....	1	....	8
Childbirth and diseases incidental thereto	1	2	....	....	3	2	5	....	1	1	....	....	15
Total	18	45	12	22	35	45	36	50	41	27	29	22	382

Deaths: Pneumonia	1
Brights disease	1
Total	2

I certify that the above is a correct and true summary as shown by the records of this hospital.

HENRY MCELDERRY,
Major and Surgeon, U. S. Army, Post Surgeon.

CADET HOSPITAL, U. S. MILITARY ACADEMY,
West Point, N. Y., July 20, 1892.

E.—*Summary of diseases and injuries treated among civilians (soldiers' families, civilian employés, and their families), at West Point, N. Y., during the fiscal year ending June 30, 1892, with deaths, taken from the records of the soldiers' hospital.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Malarial diseases	9	9	6	4	5	7	1	....	....	....	....	....	41
Influenza	....	....	....	....	7	18	17	1	2	....	....	....	45
Dietic diseases	2	1	1	3	5	2	....	....	1	2	....	....	17
Other enthetic diseases	....	....	1	....	2	....	5	3	2	....	....	....	13
Childbirth and its results	2	1	2	....	3	4	4	2	....	2	3	1	24
Constitutional diseases	....	....	....	....	....	3	2	....	2	1	1	2	11
Developmental diseases	....	4	....	....	....	....	....	....	....	....	....	....	4
Parasitic diseases	....	....	4	....	5	2	3	....	1	2	....	1	18
Nervous diseases	10	2	9	20	9	5	8	6	2	2	1	4	78
Diseases of the eye	....	....	....	1	....	....	1	1	1	....	....	1	5
Diseases of the ear	....	....	....	1	1	....	....	1	....	....	....	1	4
Diseases of the nose	1	1	....	....	11	....	....	1	....	....	1	....	15
Respiratory diseases	6	....	5	5	9	1	26	15	9	10	11	2	99
Diseases of the circulatory system	....	....	....	....	1	....	....	....	....	....	1	1	3
Diseases of the digestive system	40	21	29	10	16	10	14	11	6	5	11	7	180
Vaccina	....	....	....	....	....	....	....	....	....	....	1	....	1
Diseases of the genito-urinary system	....	1	1	....	....	....	....	....	....	1	1	2	6
Diseases of the integumentary system	2	3	7	1	7	3	2	2	2	1	1	3	34
Total diseases	72	43	65	45	81	55	83	43	28	26	32	25	598
Total wounds and injuries	8	2	....	1	5	7	1	....	1	....	....	....	21
Total diseases, wounds, and injuries	80	45	65	46	86	62	84	43	29	26	32	25	619

E.—*Summary of diseases and injuries treated among civilians, etc.*—Continued.

DEATHS.

Asphyxia	1
Cholera infantum	1
Colic, infantile	1
Convulsions	2
Heart failure	1
Pneumonia	1
Septicæmia	1
Total	

ENTHETIC DISEASES.

Chickenpox	1
Erysipelas	1
Measles	10
Typhoid fever	1
Total	13

PARASITIC DISEASES.

Intestinal worms	16
Capitis xinea	2
Total	18

I certify that the above tabulated statement is correct.

HENRY MCELDERRY,
Major and Surgeon, U. S. Army, Post Surgeon.

CADET HOSPITAL, U. S. MILITARY ACADEMY,
West Point, N, Y., July 20, 1892.

F.—*Specific febrile and acute infectious diseases occurring among civilians (officers and soldiers' families, employés and their families, men, women, and children) at West Point, N. Y., during the fiscal ending June 30, 1892.*

Diseases.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Typhoid fever	....	....	1	....	1	....	....	....	....	....	....	....	2
Influenza	....	....	....	....	11	90	129	63	31	6	....	1	331
Erysipelas	....	....	....	....	1	....	....	....	....	....	....	....	1
Diphtheria, acute	....	....	....	....	....	1	....	....	....	1	....	....	2
Measles	....	....	....	....	....	....	14	4	2	....	....	....	20
Chicken pox	....	....	1	....	....	....	....	....	....	....	....	....	1
Tonsilitis	2	3	5	6	10	10	9	12	13	20	2	3	95
Malarial diseases	9	15	13	7	10	7	1	....	....	6	13	12	93
Typho-malarial fever	....	1	....	....	1	....	....	....	....	....	....	....	2
Total	11	19	20	13	34	108	153	79	46	33	15	16	547

No deaths from these diseases reported.

I certify that the above is a correct and true summary, as shown by the records of this and the soldiers' hospital.

HENRY MCELDERRY,
Major and Surgeon, U. S. Army, Post Surgeon.

CADET HOSPITAL, U. S. MILITARY ACADEMY,
West Point, N. Y., July 20, 1892.

UNITED STATES MILITARY ACADEMY,
West Point, N. Y., June 13, 1892.

Col. JOHN M. WILSON,
Corps of Engineers, U. S. Army:

SIR: In obedience to your verbal instructions of April 20, directing me to prepare estimate of additional boiler power required for new academic building and cost of same, I have the honor to submit the following:

The architect's specifications call for 21,075 square feet of radiating surface, which requires boiler power equivalent to 150 horse power.

The present boiler plant comprises four horizontal tubular boilers rated at 80 H. P. each. I am informed by the engineer in charge of the plant that in very cold weather all four boilers are worked to their full capacity, and that there is no surplus power. It will therefore be necessary to increase the present plant by at least 150 H. P. In view of the desirability of having a little reserve power to provide for the contingency of any accidental breakdown of a boiler I would respectfully recommend the addition to the present plant of two boilers, each of 100 H. P. Their first cost will be but a trifle more than that of an 80 H. P., whereas their installation will cost practically the same.

To install these two additional boilers will necessitate an extension of the boiler house, as the present plant completely fills it. This extension may be made either to the east or to the west. The arrangement of the boiler house and coal shed as at present existing is both inconvenient and expensive. To remedy these defects thoroughly would demand radical and expensive alterations. Assuming, however, that no such changes are contemplated, and that due economy is desired, I herewith submit a plan for an extension of the boiler house to the west sufficient to cover the two additional boilers and to provide a 6-foot passage way whereby the coal may be wheeled to the fires under cover. The roof is supported upon cast-iron columns rising from the floor and from the brickwork between the boilers. This plan assumes that the cadet sink immediately in rear of the boiler house will be removed and the ashes carried off by the road in rear.

The estimated cost of the foregoing plan is as follows:

Two 100-H. P. boilers, complete	$3,000.00
127 cubic yards, rough pointed masonry, at $12	1,524.00
New roof for boiler house	750.00
200 feet 10-inch steam pipe, at $5	1,000.00
Total	6,274.00

The boilers considered in the foregoing estimate are of the ordinary horizontal tubular pattern similar to those in place. If two water tube boilers of equal power be put in, their cost will be about $5,300, the other items remaining the same. This type of boiler is in every way superior to the horizontal tubular pattern except in first cost, which would soon be paid for by their greater coal economy. If desired the extension of the boiler house may be made to the eastward with equal facility and at about the same cost.

Very respectfully, your obedient servant,

JOSEPH E. KUHN,
First Lieutenant, Corps of Engineers.

REPORT OF THE ADJUTANT-GENERAL.

ANNUAL REPORT

OF

THE ADJUTANT-GENERAL.

WAR DEPARTMENT,
ADJUTANT-GENERAL'S OFFICE,
Washington, October 1, 1892.

SIR: I have the honor to submit my annual report for the year ended September 1, 1892.

MILITARY COLLEGES.

The data in the table submitted herewith, compiled from the reports of the officers detailed as professors of military science and tactics at the several institutions, exhibit gratifying results. The average number of students over 15 years of age attending the several universities and colleges named was 18,484, an increase of 2,767 over the number reported last year and over 6,000 more than the number reported for the scholastic year 1889–'90. This marked and steady increase in the number of pupils attending the institutions of learning possessing a chair of military science and tactics undoubtedly indicates the growth of sentiment throughout the country in favor of a course which blends military instruction with the ordinary curriculum of studies.

The number of students physically capable of military duty is reported as over 15,000, of which number 8,098 were required by the faculty of the several institutions to be enrolled as military students. At only four of the colleges named is attendance on the military course elective. The total number that received military instruction during the last quarter of the scholastic year 1891–'92 was 9,012, an increase of 1,646 over the preceding year, while 617 students attended artillery drills and 8,104 infantry drills.

The interest generally manifested by both faculties and students is very good and increasing. In one instance, however, the interest of the faculty is reported as "not good," and, as might be expected from this lack of encouragement, that of the students is stated as "not up to the average." The fact that nearly all of the pupils at that institution capable of military duty are required to be enrolled leads to the hope that, as time demonstrates the positive benefit of a system that enforces manly bearing and deportment as well as inculcates habits of obedience, the interest of the faculty as well as that of the students will largely increase in the near future. In two other cases the aptitude of the students is reported as excellent and their interest as encouraging, notwithstanding the regrettable fact that at one the faculty took no interest and at the other, with the exception of the president, the faculty manifested only passive interest in the military course.

Tabulated statement from reports of professors of military science and tactics, showing average attendance of students at universities and colleges.

Universities and colleges.	Average number of students.			Whole number of male students capable of military duty.	Number required by the institution to be enrolled as military students.	Total number that received military instruction during the last quarter.	Attendance at—		Aptitude of students.	Interest manifested by—	
	Over 15 years of age.	Under 15 years of age.	Total.				Artillery drills.	Infantry drills.		Students.	Faculty.
Alabama Agricultural and Mechanical College, Auburn.	173	.....	173	171	171	171	16	148	Good	Very good	Good.
University of Alabama, Tuscaloosa	120	.....	120	113	120	97	.....	83	Fair	Fair	Improving.
Arkansas Industrial University, Fayetteville	435	45	480	246	243	302	.....	250	Not good ...	....do	But fair; military department receives full support.
Little Rock Commercial College, Arkansas	90	9	99	95	33	35	.....	30	Fair	....do	Very satisfactory.
University of California, Berkeley	471	.....	471	294	272	294	.....	212	Very good ..	Very good	Excellent.
State Agricultural College, Fort Collins, Colo	88	.....	88	86	69	69	.....	61	Good	Satisfactory	All that could be desired.
Sheffield Scientific School of Yale University, New Haven, Conn.	461	.....	461	461	108	164	.....	138	High	Decided and improving.	Marked.
Delaware College, Newark	78	.....	78	75	74	73	.....	57	Good	Fair	Poor; governing body is a board of trustees.
Florida Agricultural College, Lake City	87	7	94	94	94	66	.....	49	Ordinary ...	....do	Unexceptional; greatly increased during past year.
North Georgia Agricultural College, Dahlonega	37	10	47	26	26	26	10	24	Fair	....do	Great.
University of Illinois, Champaign	476	.....	476	385	179	179	.....	151	Good	Good	Satisfactory.
Knox College, Galesburg, Ill	200	10	210	210	42	85	.....	70	....do	....do	Marked.
Northern Illinois Normal School, Dixon	500	.....	500	280	(*)	77	16	25	Fair	Fair	Fair.
De Pauw University, Greencastle, Ind	800	.....	800	540	230	166	22	128	Good	Great.....	Great.
Purdue University, Lafayette, Ind.	541	.....	541	424	221	221	19	126	Average	Fair	About same as in other departments.
Vincennes University, Vincennes, Ind	33	12	45	45	45	44	.....	41	Good	Good	Good.
Cornell College, Mount Vernon, Iowa	438	1	439	227	177	174	.....	156	Excellent ...	Fair	Fair.
State University of Iowa, Iowa City	172	.....	172	166	160	146	20	108	....do	Satisfactory	Satisfactory.
Iowa Wesleyan University, Mount Pleasant	219	10	229	124	96	96	16	86	Very good ..	Very good	Very good; fullest coöperation.
Kansas State Agricultural College, Manhattan	252	2	254	250	None.	136	30	100	Excellent ...	Encouraging ...	Passive by all except the president.
Agricultural and Mechanical College of Kentucky, Lexington.	144	16	160	146	135	135	18	90	Good	Good	Satisfactory.

Louisiana State University and Agricultural and Mechanical College, Baton Rouge.	144	6	150	150	150	150	.....	132	....do	....do	Fair.
Maine State College, Orono	82	.....	82	77	77	77	.....	65	....do	....do	Very good.
Maryland Agricultural College, College Park	53	.....	53	52	50	50	.....	43	Fair	Fair	Good.
St. John's College, Annapolis, Md	113	15	128	109	98	103	.....	86	Satisfactory.	Very fair	Satisfactory.
Massachusetts Agricultural College, Amherst	129	.....	129	126	129	129	.....	110	Good	Good	Most excellent.
Massachusetts Institute of Technology, Boston	925	.....	925	925	185	185	.....	170	Excellent ...	Moderate	Increasing.
Michigan Agricultural College, Lansing	218	.....	218	196	168	.....	.....	.....	Fair	Not up to average.	Not good.
Michigan Military Academy, Orchard Lake	133	4	137	137	137	137	38	108	Great.....	All that could be desired.	Great.
University of Minnesota, Minneapolis	1,083	.....	1,083	1,000	143	163	.....	131	Good	Good	Very slight.
Agricultural and Mechanical College of Mississippi, Agricultural College.	193	5	198	185	186	217	24	42	....do	....do	Good
University of the State of Missouri, Columbia	500	.....	500	400	174	159	15	115	....do	....do	Do.
Washington University, St. Louis, Mo	405	201	606	427	224	256	.....	172	Excellent...	Very good	Very encouraging.
The College of Montana, Deer Lodge	40	4	44	36	27	34	.....	27	Good	Decided	Much interest manifested.
University of Nebraska, Lincoln	307	7	314	314	(†)	163	9	157	....do	Good	Good.
State University of Nevada, Reno	140	35	175	49	46	46	.....	41	....do	Excellent.....	Excellent.
Rutgers College, New Brunswick, N. J	225	.....	225	220	120	122	.....	111	....do	Good	Good.
Cornell University, Ithaca, N. Y	1,300	.....	1,300	1,200	600	402	17	371	Excellent ...	Excellent	Fair.
Clinton Liberal Institute, Fort Plain, N. Y	80	3	83	80	83	90	.....	70	Fair	Fair	Do.
De La Salle Institute, New York City, N. Y	105	98	203	100	195	195	.....	185	Good	Good	Quite good.
St. John's College, Fordham, N. Y	295	30	325	200	159	178	20	145	....do	Very good	Very good.
St. John's Military School, Manlius, N. Y	58	5	63	58	63	63	.....	60	Very good ..	Excellent	Equal, if not greater, than that shown for any other department.
Bingham School, Asheville, N. C	76	6	82	78	78	86	16	65	Good	Good	Good.
University of North Dakota, Grand Forks	70	2	72	70	70	70	.....	67	....do	....do	Do.
Mount Union College, Alliance, Ohio	150	.....	150	180	115	155	19	115	....do	Fair	Strong.
Ohio Normal University, Ada	1,097	20	1,117	585	(*)	348	20	223	Excellent ...	Exceptionally great.	Exceptionally great.
Ohio State University, Columbus	450	10	460	375	230	230	16	198	Good	Good	Good.
Ohio Wesleyan University, Delaware	728	.....	728	488	237	237	.....	221	....do	Fair	Fair.
Allegheny College, Meadville, Pa	180	.....	180	131	101	65	21	38	Average	Moderate	Good.
Grove City College, Grove City, Pa	220	1	221	224	221	240	12	55	Good	Very satisfactory.	Satisfactory.
Pennsylvania Military Academy, Chester	80	2	82	‡15	82	103	.....	74	Decided	Well sustained .	Do.
Pennsylvania State College, State College, Pa	207	6	213	183	161	161	48	128	Good	Fair	Good.
South Carolina Military Academy, Charleston	126	.....	126	126	126	126	27	97	....do	Satisfactory	Fair.
Patrick Military Institute, Anderson, S. C	85	23	108	88	(§)	88	.....	74	....do	Good	Good.
South Dakota Agricultural College, Brookings	214	1	215	118	47	68	.....	59	Fair	Fair	Fair.
University of South Dakota, Vermillion	136	.....	136	80	75	75	16	74	Good	Satisfactory	Cordial.
University of Tennessee, Knoxville	171	.....	171	166	87	92	.....	80	....do	Good	Good.
Austin College, Sherman, Tex	85	3	88	75	(‖)	90	.....	67	Fair	....do	Satisfactory.
Agricultural and Mechanical College of Texas, College Station.	195	12	207	205	200	200	.....	179	Good	Excellent.....	Fair.
University of Utah, Salt Lake City	175	7	182	172	165	165	11	131	Excellent...	Very encouraging.	Encouraging.
Norwich University, Northfield, Vt	50	.....	50	(†)	(†)	(†)	21	42	....do	Excellent.....	Excellent.

* Elective. † Not given. ‡ Over 20 years of age. § Not fixed. ‖ All qualified.

Tabulated statement from reports of professors of military science and tactics, etc.—Continued.

Universities and colleges.	Average number of students.			Whole number of male students capable of military duty.	Number required by the institution to be enrolled as military students.	Total number that received military instruction during the last quarter.	Attendance at—		Attitude of students.	Interest manifested by—	
	Over 15 years of age.	Under 15 years of age.	Total.				Artillery drills.	Infantry drills.		Students.	Faculty.
University of Vermont, Burlington	178	.....	178	138	123	123	.....	89	Good	Fair	Fair.
Vermont Academy, Saxton's River	136	6	142	60	58	61	.....	51	Fair	Considerable	Considerable.
Virginia Agricultural and Mechanical College, Blacksburg.	74	74	148	74	74	74	.....	66	Good	Good	Good.
Virginia Military Institute, Lexington	183	.....	183	183	183	185	100	177	Excellent	Excellent	Excellent.
West Virginia University, Morgantown	200	.....	200	191	76	106	.....	83	....do	Fair and increasing.	None.
University of Wisconsin, Madison	875	.....	875	700	280	196	.....	177	....do	From indifferent to great.	Satisfactory.

DIVISION OF MILITARY INFORMATION.

This division, created in the Adjutant-General's Office in 1886 and reorganized by the orders of the Secretary of War on March 15, 1892, may, I think, be regarded as performing one of the most important duties intrusted by the Secretary of War to the Adjutant-General's Office. Its duties, in brief, are the obtaining, systematizing, and arranging of information of every character, both as to our own country and as to those countries with which we would be liable to have any warlike difficulty, which might be or would be required by the President in the event of war with any one of those countries. These duties require a detailed knowledge of the military resources of such countries so fully and so well arranged that the military authorities of our own country, in case of war, would know at once everything required for determining the number of men we should have to employ, the means and methods of transportation, the facilities for subsistence, the character of country over which the troops would have to move—in fact, a thorough plan and scheme for a war with any given country. In addition to the above, the acquirement by means of military attachés of a knowledge of all important military inventions, improvements, etc., in foreign countries, and the duty of its distribution, in order that our Army may be kept abreast with the most advanced military progress in other countries, devolve upon this division. The full scope of the usefulness of the division requires the assignment of a small number of officers carefully selected for their special aptitude. This, however, has not been possible because of the lack of room accommodation, and for this reason the Secretary of War, May 3, 1892, urged upon Congress the necessity of providing in hired buildings for several offices now located in the State, War, and Navy building, viz, depot quartermaster, post paymaster, and the Superintendent of Public Buildings and Grounds, but the business of which, although of great importance, can not properly be considered as belonging to the War Department business or to that of any of its bureaus.

Congress having failed to take the necessary action, I beg, most urgently, that renewed efforts be made to secure, through the removal of these local offices (the only remedy for the present lack of needful accommodations), such additional rooms as are absolutely necessary for the full development of the important work of the division of military information.

MILITIA.

One of the principal duties of the division of military information is the having charge of the relations existing between the regular Army and the militia of the several States. The instructions of the Secretary of War have been to endeavor to cultivate close relations between the two, and I am happy to say that the most excellent results have been produced, which results have been steadily evidenced since by the large increase of the numbers of the organized and uniformed militia, the steady improvement in discipline, soldierly bearing, and knowledge, and the evident earnest desire on the part of the excellent personnel of the several national guards to reach the highest ideal characteristics of the citizen soldier. Regular officers have been sent, upon the applications of the governors of States, to the encampments of the different national guards as instructors. Their reports are, in general terms, of the most gratifying character and show the utmost anxiety on the part of the large majority of the organizations of the national guard to be-

come proficient soldiers. The strength of the national guard to-day is 111,718. It is in many cases not so well equipped as could be desired, although its equipments are as good as the amount allowed to the States by the United States justifies. It is believed that the annual appropriation of $400,000 is not sufficient even to fully equip the national guard at its present strength, nor does it seem to me that the strength of the national guard is anywhere near so great as the necessity of the United States in case of war would require. It is believed that if a larger appropriation were made, so that an increase in arms and equipments, etc., could be obtained from the General Government, the numbers of the national guard could and would be largely augmented in each State. I therefore recommend that the annual appropriation for the national guard be increased from $400,000 to $1,000,000.

MILITARY ACADEMY.

In conformity with the requirements of section 1328 of the Revised Statutes, the Board of Visitors who attended the annual examination at the Military Academy in June last have submitted a report of the results of their observations and investigations.

This report bears ample testimony to the excellent condition and management of that institution and contains valuable suggestions and recommendations. Some of the latter do not involve legislative action, and, among the most important of these, I commend to your special attention the recommendation of former Boards of Visitors—renewed by the last Board—as to the necessity of supplying the post of West Point with fifty additional horses for exclusive use in the cavalry instruction of the cadets, and the great importance of furnishing a modern artillery equipment to replace the obsolete and dangerous guns, which can not be used for the purpose of instruction.

For the cogent reasons stated in the report of the Board, I have the honor to recommend that Congress be urged to favorably consider the following recommendations, viz: That the number of cadets be increased by restoring to the President the power of appointing ten cadets at large, annually; that a steam-heating plant be erected on the railroad near either the north or south dock; that the water supply be increased by the construction of a new reservoir near Fort Putnam; that a marble, brick, or tile floor be substituted for the worn-out wooden floor in the cadet mess hall; that additional quarters be provided for the accommodation of officers on duty at the Academy, and that the band be increased to 40 members, with the compensation now paid to first-class bandsmen.

INDIAN ENLISTMENTS.

It was determined, early in 1891, to enlist an Indian contingent in separate companies, and, for the purpose of command and instruction, selected officers and noncommissioned officers of the troops of cavalry and companies of infantry skeletonized in the preceding year were assigned to the Indian companies, it being the purpose, ultimately, to supply noncommissioned officers for these companies by the appointment of Indians in the manner indicated by Regulations. In pursuance of this plan, eleven companies have been organized and eight are in process of recruitment. The smallest of these organizations numbers 15 men and the largest 42, 55 men being the full strength of an Indian company.

The whole number of Indian soldiers enlisted up to June 30, 1892, was

837, of whom 419 were enlisted during the fiscal year ending with that date.

The wisdom of enlisting a considerable number of Indians of the warlike tribes, with a view to giving them employment in useful and legitimate channels, has been confirmed by the experience of the past year. The habits of obedience, cleanliness, punctuality, and personal labor enjoined by military training have been not only beneficial to the individual Indians admitted to the Army, but have reacted favorably upon the entire personnel of the tribes from which they came. Therefore, looking exclusively to the interests of the Indian, in respect to his civilization, self-support, and control, the experiment of enlisting him as a regular soldier may be regarded as entirely successful. The primary object, however, of Indian enlistments is essentially philanthropic and not military, and as the experiment has passed the tentative stage and is likely to become a permanent administrative policy, it should be conducted without imposing a burden upon the limited resources set aside exclusively for the regular military establishment and the risk of impairing the efficiency of the Army.

It is, therefore, earnestly recommended that Indian enlistments be specifically authorized by law, substantially in the manner set forth in the bill (S. 2083) introduced in the Senate, February 8, 1892, by Senator Proctor, of Vermont. This measure looks to the recruiting of an Indian contingent, not exceeding 3,000 in number, which shall be a part of the Army, but shall not be included in the present legal enlisted strength of the Army.

RECRUITING SERVICE.

The manner of conducting the recruiting service, general and special, as fully explained in the last annual report of the Adjutant-General, has been adhered to during the past year, and all recruiting officers have been required to make persistent efforts to secure desirable recruits in sufficient numbers to fill the ranks of the various organizations.

GENERAL RECRUITING.

The superintendency for the general service has been maintained in New York City, with depots for the collection and instruction of recruits at Davids Island, New York Harbor, and Columbus Barracks, Ohio, for infantry and heavy artillery, and at Jefferson Barracks, Missouri, for cavalry and light artillery.

October 1, 1891, recruiting rendezvous were in operation at the following places: Two in each of the cities of Boston, New York, Philadelphia, and Chicago; and one each at Portland, Me.; Springfield, Mass.; Providence, R. I.; New Haven, Conn.; Albany, Brooklyn (a branch of New York City), Buffalo, Elmira, and Rochester, N. Y.; Camden and Newark, N. J.; Harrisburg, Wilkesbarre, and Pittsburg, Pa.; Cincinnati and Cleveland, Ohio; Evansville, Fort Wayne, Indianapolis, and Terre Haute, Ind.; Detroit, Mich.; Milwaukee, Wis.; Davenport, Iowa; St. Paul and Minneapolis, Minn.; St. Louis, Mo.; Louisville, Ky.; Knoxville, Tenn.; Wheeling, W. Va.; Baltimore, Md.; Washington, D. C.; Greensboro, N. C., and San Francisco, Cal.

The rendezvous at Elmira, N. Y., was closed in October, 1891, and the rendezvous at Providence, R. I., has been recently closed.

In April and May, 1892, rendezvous were opened at Seattle, Wash., and Chattanooga, Tenn., and in July, 1892, a rendezvous was opened

at Port Gibson, Miss., and an additional rendezvous in Chicago, Ill. The rendezvous at Portland, Me., was transferred to Concord, N. H., in December, 1891, thence to Portsmouth, N. H., in March, 1892, and again, in June following, to Altoona, Pa. In April and July, 1892, the rendezvous at Wilkesbarre, Pa., and Greensboro, N. C., were transferred to Springfield, Ill., and Nashville, Tenn., respectively.

In connection with these regularly established rendezvous, over forty temporary branch rendezvous have been conducted, for a longer or shorter time, as seemed necessary in each case, for the purpose of reaching the best classes in the smaller cities and towns; but, as stated in the report of last year, the general service has to depend almost entirely for its recruits upon its well-established rendezvous, which are thoroughly advertised and thus become known throughout large sections of country surrounding them.

SPECIAL RECRUITING.

The departmental, the ordinary regimental, and the engineer recruiting services have continued to furnish, without expense to the recruiting appropriation, a fair proportion of the recruits required.

The special regimental recruiting service (the object of which is "to furnish to regiments serving in the more settled parts of the country the opportunity of recruiting their ranks, by means of traveling recruiting parties, from the communities surrounding or of easy access to their posts") having, in its experimental stage, demonstrated that it possesses some important advantages over other methods of recruiting and is well calculated to produce excellent results, has been applied during the past year to such regiments as were favorably located for special recruitment, and, during the fiscal year ended June 30, 1892, it supplied to the different regiments 1,582 recruits, considerably more than twice the number obtained by this means in the preceding fiscal year. The importance of this branch of the recruiting service, and the fact that it has been inaugurated and developed at an opportune time, are apparent from the following considerations: Throughout the fiscal year 1891-'92 unusual efforts were made to supply, by means of the general recruiting service, as many desirable recruits as possible; the number of rendezvous maintained was the largest for many years, and the recruiting officers and parties were required to make every exertion to secure a good class of recruits in sufficient numbers to fill the ranks of the Army. The end of the fiscal year, however, found the Army 1,260 men below its authorized strength.

The whole number of enlistments by special recruiting officers, from January, 1890, to June 30, 1892, was 2,404, of whom probably 2,000 were in service on the latter date. Without this source of supply, therefore, the number of vacancies in the Army, June 30, 1892, would have been about 3,260, or an average of 81 to each regiment, instead of an average of 31, as was the fact.

Under date of June 16, 1892, full instructions were promulgated from this office for conducting the special regimental recruiting service, as it must evidently be relied upon hereafter to furnish a very considerable proportion of the recruits needed by the Army from time to time.

Notwithstanding the constant demand for recruits throughout the year and the efforts made to meet this demand as far as possible, no relaxation has been permitted in the rigid examination of applicants as regards their physical, mental, and moral fitness for the service, required by existing regulations. The high standard of qualifications for acceptance and the general business prosperity of the country probably ac-

count for the failure to secure the full number of recruits required. It appears, however, that the number of vacancies in the ranks is from 600 to 700 less than it was a year ago, indicating satisfactory progress of the efforts made for the recruitment of the Army.

The total number of enlistments in the Army for the year ended June 30, 1892 (excluding those not embraced in the legal limit of 25,000 men), was 9,847, classified as follows:

For the general recruiting service	5,018
For the department recruiting service	1,003
For the Indian companies	419
For the special regimental recruiting service	1,582
For the Engineer battalion	125
	8,147
For regiments, detachments, etc	1,700
Total	9,847

Of the 9,847 accepted recruits, 6,652 were native born and 3,195 of foreign birth; 8,783 were white, 645 colored, and 419 Indians.

The reports show that the recruiting officers making the 8,147 enlistments embraced in the first five items of the foregoing list rejected 20,931 applicants (72 per cent of the whole number seeking enlistment) as lacking the necessary qualifications—either physical, mental, or moral—which indicates that those officers have, as a rule, taken the necessary precautions to prevent the enlistment of men unfitted, from any cause, for the duties of soldiers.

POST SCHOOLS.

The annual reports show the post schools to have been carried on with more than usual success and with marked and positive advantage to the enlisted men who have attended them. While the work of these schools should be continued in the sphere of usefulness marked out for them by existing regulations, I am also of opinion that they should be more largely used than they have been in connection with the military training of noncommissioned officers. Elementary courses of study in topography and minor tactics and in the use of simple field instruments should be introduced, in which the instruction should be imparted partly by means of text-books and partly by lectures, oral explanations, and practical field work. Courses of study should also be provided for such enlisted men as desire to apply for examination for promotion to the grade of commissioned officers, and these should be thrown open to all those who fulfill the statutory qualifications, whose character and capacity are such as to give promise of future usefulness, and who evince a disposition to become proficient in the branches of study which are made the subjects of competitive examinations.

MILITARY SERVICE CORPS.

The concentration of troops in larger posts reduces somewhat the number withdrawn from military instruction to render service as extra-duty men in the several staff departments. The effect of such details can not be otherwise than harmful to the efficiency of the Army, and the duties assigned them can be more economically performed by civilian employés, or by detachments of men enlisted and trained for the purpose.

The Hospital Corps, organized in accordance with the act of March 1, 1887, and the Corps of Mechanics and Laborers, authorized to be en-

listed at the Military Academy, have more than fulfilled the expectations entertained with regard to them at the time they were established. The result has been to provide an efficient service in both departments, to remove a cause that has been productive of no little annoyance to company commanders and medical officers, and to restore to military duty a considerable number of enlisted men.

I suggest that the system—for it is no longer an experiment—be extended, and that a suitable corps of enlisted men be authorized for, and attached to, the Quartermaster's and Subsistence Departments, to replace the force of enlisted men now performing duties which are neither military nor beneficial to those engaged in them, in any military sense. The returns show that about 1,500 noncommissioned officers and privates are now detailed from their companies and withdrawn from their proper instruction and assigned to classes of work which could be done much more economically and efficiently by a corps of specialists enlisted for the purpose. The effect would be to return to the ranks a force equal to two regiments of cavalry or artillery, or three regiments of infantry of more than average size. The practice here recommended has long been made part of the established military policy of European armies, and has been resorted to by them, in every case, with a view to a more efficient and economical administration. I need only add that the adoption of special service corps has invariably been attended in our service by a considerable increase in efficiency and a marked reduction of expenditure.

SUMMER MARCHES, ETC.—THEORETICAL AND PRACTICAL INSTRUCTION OF OFFICERS.

The system of theoretical instruction of officers has been placed on a satisfactory footing by the issuance of General Orders, No. 80, of 1891. The method established by that order is in substance an application of the lyceum or seminary system to the instruction of officers. No other was of possible application to men varying so much in age as do officers of the Army at the present time and under the present conditions of advancement and promotion. The essays submitted are generally satisfactory, and some evince mental attainments and habits of investigation of the highest order. The papers read by the younger officers are, many of them, worthy of special commendation. This course covers the six months of the year during which practical instruction can not be carried on to advantage on account of the inclemency of the weather. The corresponding course in field exercises, including summer camps, field maneuvers, and the solution of practical problems in minor and grand tactics, is in process of development, and it is hoped that a comprehensive scheme of practical field instruction will be adopted at an early day.

DISCIPLINE AND TRAINING.

The five years now drawing to a close have been marked, beyond any similar period in the history of the military establishment, by legislation and modification of regulations calculated to ameliorate the condition and improve the situation and surroundings of the enlisted men. New quarters of the most improved designs have been erected, the vegetable component of the ration has been largely increased, post exchanges have been established, and the existing methods of heating, lighting, and ventilation of the barracks leave nothing to be desired. The clothing has been increased, new barrack furniture and equipments have been supplied; a method of procuring discharge by purchase has

been provided, and they are given the option, at the end of three years' service, of returning to civil life with an honorable discharge. The tenure of noncommissioned officers has been made more secure, and their privileges and emoluments increased, both in importance and value. All reasonable inducements for promotion are placed at the disposal of those who, by the faithful and intelligent performance of military duty, joined to exemplary habits and earnest endeavors toward self-improvement, give evidence of being worthy of advancement.

It may now be confidently asserted that the enlisted man has no longer any reasonable ground of complaint. His material surroundings are now far in advance of those prevailing in any European army. A fixed code of punishments has been adopted, after full consideration of all aspects of the question, which is now applied by courts-martial in all cases brought before them for trial. But it should be steadily borne in mind, however, that an army may be well supplied, comfortably fed, lodged, clothed, and still, for want of training and discipline, fall short of its duty and prove of but little use in time of national emergency. It is only when the officers are actuated by a high sense of duty and held to and strongly supported in an intelligent and vigorous enforcement of military discipline that a mere assemblage of armed men becomes indeed an army, and a safe reliance to the state in time of danger.

Military discipline remains the same always, but the methods of obtaining and enforcing it are subject to constant change. The old close-order formation has disappeared, and with it have passed away many of the old methods of military training. Force has given place to intelligence—troops are now led rather than driven—and professional training has become largely a matter of mental, physical, and moral development; but when all this has been said, the fact remains that the importance of intelligent, implicit obedience, based upon strict subordination, and the rigid enforcement of that correct and orderly sequence of details and events which constitute military discipline is as great, if indeed it be not greater than ever before.

The enlisted force is now composed of most intelligent and promising material, and stands ready to receive the highest professional training. I am proud to say that the officers stand, as a body, as regards capacity and intelligence and the zealous and faithful performance of duty, at a higher point of attainment than at any previous time in the history of our military service. To maintain the highest discipline, to secure the most thorough and practical training, and so to achieve the highest efficiency, the officers to whose hands this important work is intrusted will certainly need, and should always receive, the steadfast, unwavering support of the Department in their endeavors to extend the field of military usefulness and to maintain the high standard of performance of professional duty which has ever characterized the officers of the United States Army.

GOVERNMENT HOSPITAL FOR THE INSANE.

The following is a list of persons committed to the Government Hospital for the Insane under the orders of the honorable the Secretary of War from September 1, 1891, to September 1, 1892:

Officers of the U. S. Army	4
Officers of the U. S. Army (retired)	2
Enlisted men of the U. S. Army	33
Late soldiers U. S. Army	2
Total	41

OFFICE WORK.

The clerical force of this office remains the same as at the date of the last report, and has been actively employed on the work pertaining to the administration of the affairs of the military establishment, including the recruiting service, and also in furnishing information in answer to calls from the President, Congress, the several Executive Departments, and the Court of Claims.

In addition to the heavy and important work of the "appointment, commission, and personal" and of the "regular army rolls" divisions of this office, they have prepared reports—the former, in pension and kindred cases affecting the claims of volunteer officers who had service in the general staff of the Army, and the latter, in similar cases affecting the claims of enlisted men of the regular Army. The table below exhibits the number of calls for information received and answered, and it is noticed with satisfaction that no call remained unanswered September 1, 1892:

Bureau.	On hand September 1, 1891.	Received.	Finished.	On hand September 1, 1892.
Commissioner of Pensions	.....	9,230	9,230	.....
First Comptroller	.....	5	5	.....
Second Comptroller	.....	52	52	.....
Second Auditor	.....	4,087	4,087	.....
Third Auditor	.....	30	30	.....
Fourth Auditor	.....	12	12	.....
General Land Office	.....	34	34	.....
Quartermaster General	.....	52	52	.....
Commissary General	.....	104	104	.....
Surgeon General	.....	149	149	.....
Paymaster General	.....	58	58	.....
Chief Signal Officer	.....	7	7	.....
Total	.....	13,820	13,820	.....

The work of withdrawing vouchers from the great mass of papers—over 900 cubic feet, and consisting principally of accounts of quartermasters and commissaries—forming part of the Confederate archives in the division of that name in this office, and which was begun last autumn, has been pushed to satisfactory completion. About 160,000 vouchers, found among these papers, have been jacketed, each envelope bearing the name of the firm or individual whose signature was affixed to the voucher. There were already in the Confederate archives division 857 file-boxes, estimated to contain nearly 500,000 vouchers, but the vouchers were in bad condition, and having originally been arranged by States, districts, etc., the task of ascertaining whether a certain name appeared on any one of them was tedious and unsatisfactory. These last have also been jacketed, and, combined with the 160,000 mentioned above, make a set of 650,000 vouchers arranged in one alphabetical series and now filed in 1,349 file-boxes. This arrangement will greatly facilitate the work of the division in furnishing information in answer to calls from the different departments of the Government, but chiefly from the Department of Justice and the Court of Claims.

A card index has been made of the names found on 14,481 pay rolls of civilian employés (including 6,675 pay rolls found among the mass of papers referred to above). This index was completed February 25, 1892.

The names of persons mentioned in the 43,835 letters received by the

Confederate War Department have been carded, and the cards are now being arranged in alphabetical order.

The force employed on this special duty originally consisted of fourteen clerks temporarily detailed, not without inconvenience, from the several divisions of this office, supplemented by similar details from other bureaus of the War Department, the average number during the year being about twenty-five.

Congress having by the law approved May 13, 1892, provided "for the preparation of a general card index of the books, muster rolls, orders, and other papers preserved in the Confederate archives office," and authorized the Secretary of War to make such appointments as he might deem necessary, within the limits of the small appropriation made for this special purpose, sixteen clerks were appointed in June, 1892, and the present force is now twenty-nine. This special work has been conducted from the beginning with creditable zeal and industry, and will be pushed with vigor.

In closing this report I beg leave to call your attention to the very highly efficient manner in which the officers of the Adjutant-General's Department, both here and elsewhere, have performed their duties, and to record my appreciation of the intelligence, zeal, and efficiency of the clerks in the Adjutant-General's Office.

Respectfully submitted.

R. WILLIAMS,
Adjutant-General.

Hon. STEPHEN B. ELKINS,
Secretary of War.

REPORT OF THE ACTING JUDGE-ADVOCATE-GENERAL.

REPORT

OF

THE ACTING JUDGE-ADVOCATE-GENERAL.

WAR DEPARTMENT,
JUDGE-ADVOCATE-GENERAL'S OFFICE,
Washington, D. C., September 30, 1892.

Hon. S. B. ELKINS,
Secretary of War:

SIR: I have the honor to submit the annual report of the Judge-Advocate-General's Department for the eleven months ending August 31, 1892.

Commissioned officers tried by general court-martial:	
Records reported upon and submitted to the Secretary of War for action of the President	3
Records received, revised, and recorded, not requiring the action of the President (acquitted)	3
Enlisted men tried by general court-martial (convicted, 1,847; acquitted, 140)	1,987
Military convicts tried by general court-martial (convicted)	7
Total of trials by general court-martial	2,000

Number of convictions of various offences, taken from the records of general courts-martial received at this office during the eleven months ending August 31, 1892:

Absence without leave	486
Allowing prisoner to escape	12
Assault and battery	110
Assault with deadly weapon	35
Assault with intent to kill	7
Attempt at suicide	1
Attempting to escape	9
Breach of arrest	48
Conspiracy	5
Desertion	426
(Of these offences, 259 were committed prior to October 1, 1891, and 167 since September 30, 1891. Of the 259 desertions, 166 were apprehensions and 93 surrenders; and of the 167 desertions, 129 were apprehensions and 38 surrenders. Total apprehensions, 295; total surrenders, 131.)	
Disobedience of orders of commissioned officer	114
Disobedience of orders of non-commissioned officer	182
Disrespect to superior officer	44
Drawing fraudulent checks	5
Drunkenness	267
Drunkenness on duty	150
Duplication of pay vouchers	3
Embezzlement	4
Escaping from guard or arrest	21
Failure to attend drill, roll-call, etc	277
Fighting	6
Forgery	9

Fraudulent enlistment	5
Indecent exposure of person	6
Larceny	98
Mayhem	1
Neglect of duty	80
Perjury	5
Quitting guard or post as sentinel	83
Rape	1
Resisting arrest	63
Robbery	6
Selling or losing clothing	82
Selling, losing, or wasting Government property	42
Sleeping on post	31
Striking superior officer	1
Threatening to strike superior officer	1
Conduct unbecoming an officer and a gentleman (not included under previous heads)	6
Disorders, etc., charged as "conduct to the prejudice of good order and military discipline" (not included under previous heads)	757
Miscellaneous offences (not included under any previous head)	51

The number of trials by garrison and summary courts-martial in the different departments is as follows:

Department of Arizona	1,677
Department of California	1,057
Department of the Columbia	872
Department of the East	3,669
Department of Dakota	2,050
Department of the Missouri	2,441
Department of the Platte	2,543
Department of Texas	958
At posts not in any of the above departments	1,403
Total	16,670

The number of trials by inferior courts-martial resulting in acquittal was, approximately, 480, and the number of different enlisted men tried, approximately, 9,603—many having been tried more than once.

The annual reports of this office have heretofore contained tabulated statements of its work, but it is proposed to discontinue this practice because, owing to the character of the work, it is not possible in this way to give an accurate and satisfactory description of it. It is safe to say that not more than one-half of it relates to the administration of military justice, the other half dealing with the many and various civil matters which fall under the jurisdiction of the War Department. During the twelve months ending September 30th about 2,178 trials by general court-martial were had, and the records of all these cases have been carefully examined. It will be readily understood that this takes a great deal of time. Nevertheless, with all the other work relating to strictly military matters added, I do not think that it demands more attention than what I may call the civil work of the office.

With this work, civil and military, the time of this office is busily occupied, and I believe that it will not be possible, without an increase of its force, to handle the additional work which the proposed "board of review" would give rise to. The bill to establish this board has already passed the House of Representatives, and will almost certainly become a law at the next session of Congress. It will be a radical innovation on our present court-martial system, for the board of review will be vested with the jurisdiction to re-hear, when duly brought before it, all cases of dishonorable discharge of officers and enlisted men of regulars and volunteers, whenever tried. This marks out a new and very extensive field of work, not only for the board of review but for

this office, where, besides the large additional amount of copying which will be required, the cases brought before the board will have to be twice reviewed—once, when the Secretary of War has to decide whether a case shall be laid before the board; and again, when it is received back from the board with new evidence, and is to be reported to Congress. I feel certain, therefore, that when the board of review is established an increase of the force of this office will be found absolutely necessary.

An act was passed at the last session of Congress making several important changes in the administration of military justice. Hereafter the judge-advocate of a court-martial is to be excluded from the closed sessions of the court, as the accused has heretofore been. This change is a good one, even if there be nothing more in it than an increase of the appearance of fairness of the court-martial trial. Certainly there is no necessity for the judge-advocate to be present when the accused is not. The act referred to makes fraudulent enlistment, (*i. e.*, by false representation, or concealment of a disqualification for enlistment,) and the receipt of pay or allowances under it, a military offence; gives to certain, officers the power to administer oaths; and authorizes the remission and mitigation of the sentences of summary courts. The provisions of this act are progressive and will, I feel sure, have a good effect in the administration of military justice. It is to be regretted, however, that the House of Representatives struck out a section of the bill giving to courts-martial the power to punish, by confinement not exceeding three months or fine not exceeding $100, civilians who should be in contempt of their authority—the object being to enable courts-martial to compel civilian witnesses to testify. This they can not now do, and the consequence is very apt to be a failure of justice. Apparently this was appreciated by the House of Representatives when it passed the bill to establish the board of review, for in that bill there is a provision giving to the board, without limit of punishment, the power denied to the court-martial. Yet, the board would have much less need of the power.

Owing to a change in the date of the reports of the department judge-advocates, this report covers a period of eleven months only. The difference in the number of trials during this period and the preceding twelve months will therefore not give a correct view of the subject, nor lead to reliable conclusions. For the sake of making such a comparison, however, we may assume that the number of trials by general court-martial for September will be the same as for August, and this would give us as a result 2,178 trials by general court-martial for the twelve months ending September 30, and of these 464 for desertion; showing an increase as compared with last year of 271 in the whole number of trials, and of 71 for desertion.

This statement is disappointing, for a decrease had been hoped for and indeed expected. However, the increase can easily be accounted for, and it seems to be probable that the highest number of trials has now been reached, and that there will hereafter be a decrease. During the eleven months ending August 31 316 cases of minor offences were brought before general courts-martial in consideration of previous convictions, for the manifest purpose of having the soldiers dishonorably discharged, as authorized by General Orders No. 21, 1891, Adjutant-General's Office. This has been found to be a very convenient means of ridding the military service of undesirable men. Estimating the number of such trials for September the same as for August we have 337 for the year. If these should be deducted from the whole number of trials the total would be 66 less than last year. It is not probable

that there will be so many of these trials in the future. In this connection it is also worthy of note that of 426 convictions of desertion for the eleven months ending August 31st only 167 were for desertions occurring during that period.

This is the second year both of the summary court act and of the executive order establishing limits of punishment. We have, therefore, had time to test these measures and to form a judgment as to their merit. That either of them should receive universal and unqualified approbation throughout the Army was, of course, not to be expected, for there would naturally be some difference of views with regard to the very decided changes made by them in our system of military judicature. And it may be that some modifications will be found necessary. With regard to the penal code the following have been suggested by the judge-advocates of departments:—

(1) That the punishments for desertion are inadequate;

(2) That when a conviction is of several offences none of which is punishable with dishonorable discharge this punishment can not, in the absence of previous convictions, be awarded, although the sentence may impose a long term of confinement and a heavy forfeiture;

(3) That for offences under the thirty-eighth article of war, except drunkenness on guard, the punishments are too light;

(4) That the rules with reference to the limitation of punishment in consideration of previous convictions need amendment (see reports of the judge-advocates of the departments of the Missouri and of the Columbia);

(5) That the alternative punishment of dishonorable discharge with forfeiture of all pay and allowances which may be awarded on proof of five or more previous convictions might advantageously be modified, so as to permit courts to sentence to dishonorable discharge alone, or with forfeiture of all or part of pay and allowances.

But, considering the penal code and the summary court generally, the judgment of the Army is, without question, favorable to them. It is readily conceded that they are improvements on the old practice. As to the penal code it can not have escaped observation that the former great disparity of punishment in the different military departments has disappeared. Were this the only good accomplished by the executive order it would be proof of its timeliness. With regard to the summary court it will perhaps become a question whether it ought not to be relieved of that mass of trivial delinquencies which in the days of the garrison court-martial were in general disposed of without trial. Sixteen thousand six hundred and seventy trials by inferior courts-martial have been reported for the eleven months ending August 31st, and nearly all of these were by summary court. To those who do not understand that the summary court is a court of very limited jurisdiction, and that in a large number of the cases tried the sentences were of the lightest kind—sometimes as little as a forfeiture of 25 cents—the number of trials is appalling, and gives an entirely erroneous impression of the condition of the discipline of the Army. It is owing to the fact that on account of the convenience of the summary court a large number of these petty delinquences are now tried by it which company commanders formerly settled for themselves. Their power of withholding privileges and indulgences is the same now as before the passage of the summary court act, but it does not seem to be sufficient to afford relief to the summary court. Something ought to be done to reduce the enormous number of these trials, and I know of no reason why the company commander should not have power to dispose

of many of the insignificant matters which now burthen the time and record of the summary court. A peccadillo so trivial as to be punished with a forfeiture of 25 cents is too trivial to be brought before a court. Indeed, the company commander might well, and to the great relief of the summary court, be given the power to impose punishment up to—say, a forfeiture of $2, or confinment for four days.

THE ABOLITION OF CAPITAL PUNISHMENT IN THE ARMY.

At the last session of Congress Hon. N. M. Curtis introduced, as an amendment to a bill to define the crime of murder, etc., a substitute for it, providing among other things for the abolition of the death penalty for the violation of any statute of the United States. As this is intended to affect the administration of military, as well as civil, justice it seems to be desirable to consider the policy of the measure so far as it relates to the Army.

All our Articles of War which authorize the infliction of capital punishment, except two, came to us from England. In them we find the English law as it was at the time when our articles were adopted, and it will be interesting to compare them with the present English code in order to see how far, if at all, the English have departed from the articles to which we still cling. I therefore give side by side the Amercan and the English articles now in force.

American Articles.	*British Army Act.*
ART. 21. Any officer or soldier who, on any pretense whatsoever, strikes his superior officer, or draws or lifts up any weapon, or offers any violence against him, being in the execution of his office, or disobeys any lawful command of his superior officer, shall suffer death, or such other punishment as a court-martial may direct.	SEC. 8. (1) Every person subject to military law who commits any of the following offences; that is to say, Strikes or uses or offers any violence to his superior officer, being in the execution of his office, shall on conviction by court-martial be liable to suffer death, or such less punishment as is in this Act mentioned; and (2) Every person subject to military law who commits any of the following offences; that is to say, Strikes or uses or offers any violence to his superior officer, or uses threatening or insubordinate language to his superior officer, shall on conviction by court-martial, if he commits such offence on active service, be liable to suffer penal servitude, or such less punishment as is in this Act mentioned; and if he commits such offence not on active service, be liable, if an officer, to be cashiered, or to suffer such less punishment as is in this Act mentioned, and if a soldier, to suffer imprisonment, or such less punishment as is in this Act mentioned. SEC. 9. (1) Every person subject to military law who commits the following offence; that is to say, Disobeys in such manner as to show a wilful defiance of authority any lawful command given personally by his superior officer in the execution of his office, whether the same is given orally, or in writing, or by signal, or otherwise, shall on conviction by court-martial be liable to suffer death, or such less punishment as is in this Act mentioned; and

ART. 22. Any officer or soldier who begins, excites, causes, or joins in any mutiny or sedition, in any troop, battery, company, party, post, detachment, or guard, shall suffer death, or such other punishment as a court-martial may direct.

ART. 23. Any officer or soldier who, being present at any mutiny or sedition, does not use his utmost endeavor to suppress the same, or having knowledge of any intended mutiny or sedition, does not, without delay, give information thereof to his commanding officer, shall suffer death, or such other punishment as a court-martial may direct.

ART. 39. Any sentinel who is found sleeping upon his post, or who leaves it before he is regularly relieved, shall suffer death, or such other punishment as a court-martial may direct.

ART. 41. Any officer who, by any means whatsoever, occasions false alarms in camp, garrison, or quarters, shall suffer death, or such other punishment as a court-martial may direct.

ART. 42. Any officer or soldier who misbehaves himself before the enemy, runs

(2) Every person subject to military law who commits the following offence; that is to say,

Disobeys any lawful command given by his superior officer, shall, on conviction by court martial, if he commits such offence on active service, be liable to suffer penal servitude, or such less punishment as is in this Act mentioned; and if he commits such offence not on active service, be liable, if an officer, to be cashiered, or to suffer such less punishment as is in this Act mentioned, and if a soldier, to suffer imprisonment, or such less punishment as is in this Act mentioned.

SEC. 7. Every person subject to military law who commits any of the following offences; that is to say,

(1) Causes or conspires with any other persons to cause any mutiny or sedition in any forces belonging to Her Majesty's regular, reserve, or auxiliary forces, or Navy; or

(2) Endeavors to seduce any person in Her Majesty's regular, reserve, or auxiliary forces, or Navy, from allegiance to Her Majesty, or to persuade any person in Her Majesty's regular, reserve, or auxiliary forces, or Navy, to join in any mutiny or sedition; or

(3) Joins in, or being present does not use his utmost endeavors to suppress, any mutiny or sedition in any forces belonging to Her Majesty's regular, reserve, or auxiliary forces, or Navy; or

(4) Coming to the knowledge of any actual or intended mutiny or sedition in any forces belonging to Her Majesty's regular, reserve, or auxiliary forces, or Navy, does not without delay inform his commanding officer of the same, shall on conviction by court-martial be liable to suffer death, or such less punishment as is in this Act mentioned.

SEC. 6. (1) Every person subject to military law who commits any of the following offences; that is to say,

(*k*) Being a soldier acting as sentinel, commits any of the following offences; that is to say,

(*i*) Sleeps or is drunk on his post; or

(*ii*) Leaves his post before he is regularly relieved, shall, on conviction by court-martial, if he commits any such offence on active service, be liable to suffer death, or such less punishment as is in this Act mentioned; and if he commits any such offence not on active service, be liable, if an officer, to be cashiered, or to suffer such less punishment as is in this Act mentioned, and if a soldier, to suffer imprisonment, or such less punishment as is in this Act mentioned.

SEC. 4. Every person subject to military law who commits any of the following offences; that is to say,

(1) Shamefully abandons or delivers up any garrison, place, post, or guard, or uses any means to compel or induce any governor, commanding officer, or other

away, or shamefully abandons any fort, post, or guard, which he is commanded to defend, or speaks words inducing others to do the like, or casts away his arms or ammunition, or quits his post or colors to plunder or pillage, shall suffer death, or such other punishment as a court-martial may direct.

ART. 43. If any commander of any garrison, fortress, or post is compelled, by the officers and soldiers under his command, to give up to the enemy or to abandon it, the officers or soldiers so offending shall suffer death, or such other punishment as a court-martial may direct.

ART. 44. Any person belonging to the armies of the United States who makes known the watchword to any person not entitled to receive it, according to the rules and discipline of war, or presumes to give a parole or watchword different from that which he received, shall suffer death, or such other punishment as a court-martial may direct.

ART. 45. Whosoever relieves the enemy with money, victuals, or ammunition, or knowingly harbors or protects an enemy, shall suffer death, or such other punishment as a court-martial may direct.

ART. 46. Whosoever holds correspondence with, or gives intelligence to, the enemy, either directly or indirectly, shall suffer death, or such other punishment as a court-martial may direct.

ART. 56. Any officer or soldier who does violence to any person bringing provisions or other necessaries to the camp, garrison, or quarters of the forces of the United States in foreign parts, shall suffer death, or such other punishment as a court-martial may direct.

ART. 57. Whosoever, belonging to the armies of the United States in foreign parts, or at any place within the United States or their Territories during rebellion against the supreme authority of the United States, forces a safeguard, shall suffer death.

person shamefully to abandon or deliver up any garrison, place, post, or guard, which it was the duty of such governor, officer, or person to defend; or

(2) Shamefully casts away his arms, ammunition, or tools in the presence of the enemy; or

(3) Treacherously holds correspondence with or gives intelligence to the enemy, or treacherously or through cowardice sends a flag of truce to the enemy; or

(4) Assists the enemy with arms, ammunition, or supplies, or knowingly harbors or protects an enemy not being a prisoner; or

(5) Having been made a prisoner of war, voluntarily serves with or voluntarily aids the enemy; or

(6) Knowingly does when on active service any act calculated to imperil the success of Her Majesty's forces or any part thereof; or

(7) Misbehaves or induces others to misbehave before the enemy in such manner as to show cowardice, shall on conviction by court-martial be liable to suffer death, or such less punishment as is in this Act mentioned.

SEC. 6. (1) Every person subject to military law who commits any of the following offences; that is to say,

(*a*) Leaves his commanding officer to go in search of plunder; or

(*b*) Without orders from his superior officer, leaves his guard, picquet, patrol, or post; or

(*c*) Forces a safeguard; or

(*d*) Forces or strikes a soldier when acting as sentinel; or

(*e*) Impedes the provost marshal or any assistant provost marshal or any officer or non-commissioned officer or other person legally exercising authority under or on behalf of the provost marshal, or, when called on, refuses to assist in the execution of his duty the provost marshal, assistant provost marshal, or any such officer, non-commissioned officer, or other person; or

(*f*) Does violence to any person bringing provisions or supplies to the forces; or commits any offence against the property or person of any inhabitant of or resident in the country in which he is serving; or

(*g*) Breaks into any house or other place in search of plunder; or

(*h*) By discharging firearms, drawing swords, beating drums, making signals, using words, or by any means whatever, intentionally occasions false alarms in action, on the march, in the field, or elsewhere; or

(*i*) Treacherously makes known the parole, watchword, or countersign to any person not entitled to receive it; or treacherously gives a parole, watchword, or countersign different from what he receives; or

(*j*) Irregularly detains or appropriates

ART. 47. Any officer or soldier who, having received pay, or having been duly enlisted in the service of the United States, deserts the same, shall, in time of war, suffer death, or such other punishment as a court-martial may direct; and in time of peace, any punishment, excepting death, which a court-martial may direct.

ART. 49. Any officer who, having tendered his resignation, quits his post or proper duties, without leave, and with intent to remain permanently absent therefrom, prior to due notice of the acceptance of the same, shall be deemed and punished as a deserter.

ART. 51. Any officer or soldier who advises or persuades any other officer or soldier to desert the service of the United States, shall, in time of war, suffer death, or such other punishment as a court-martial may direct; and in time of peace, any punishment, excepting death, which a court-martial may direct.

ART. 58. In time of war, insurrection, or rebellion, larceny, robbery, burglary, arson, mayhem, manslaughter, murder, assault and battery with an intent to kill, wounding, by shooting or stabbing, to his own corps, battalion, or detachment any provisions or supplies proceeding to the forces, contrary to any orders issued in that respect; or

(*k*) Being a soldier acting as sentinel, commits any of the following offences; that is to say,

(*i*) Sleeps or is drunk on his post; or

(*ii*) Leaves his post before he is regularly relieved, shall, on conviction by court-martial, if he commits any such offence on active service, be liable to suffer death, or such less punishment as is in this Act mentioned; and if he commits any such offence not on active service, be liable, if an officer, to be cashiered, or to suffer such less punishment as is in this Act mentioned, and if a soldier, to suffer imprisonment, or such less punishment as is in this Act mentioned.

(2) Every person subject to military law who commits any of the following offences; that is to say,

(*a*) By discharging firearms, drawing swords, beating drums, making signals, using words, or by any means whatever, negligently occasions false alarms in action, on the march, in the field, or elsewhere; or

(*b*) Makes known the parole, watchword, or countersign to any person not entitled to receive it; or, without good and sufficient cause, gives a parole, watchword, or countersign different from what he received, shall on conviction by court-martial be liable, if an officer, to be cashiered, or to suffer such less punishment as is in this Act mentioned, and if a soldier, to suffer imprisonment, or such less punishment as is in this Act mentioned.

SEC. 12. (1) Every person subject to military law who commits any of the following offences; that is to say,

(*a*) Deserts or attempts to desert Her Majesty's service; or

(*b*) Persuades, endeavors to persuade, procures or attempts to procure, any person subject to military law to desert from Her Majesty's service, shall, on conviction by court-martial, if he committed such offence when on active service or under orders for active service, be liable to suffer death, or such less punishment as is in this Act mentioned; and if he committed such offence under any other circumstances, be liable for the first offence to suffer imprisonment, or such less punishment as is in this Act mentioned; and for the second or any subsequent offence to suffer penal servitude, or such less punishment as is in this Act mentioned.

SEC. 41. Subject to such regulations for the purpose of preventing interference with the jurisdiction of the civil courts as are in this Act after-mentioned, every person who, whilst he is subject to mil-

with an intent to commit murder, rape, or assault and battery with an intent to commit rape, shall be punishable by the sentence of a general court-martial, when committed by persons in the military service of the United States, and the punishment in any such case shall not be less than the punishment provided, for the like offence, by the laws of the State, Territory, or district in which such offence may have been committed.

[Section 1343, Revised Statutes.]

All persons who, in time of war, or of rebellion against the supreme authority of the United States, shall be found lurking or acting as spies, in or about any of the fortifications, posts, quarters, or encampments of any of the armies of the United States, or elsewhere, shall be triable by a general court-martial, or by a military commission, and shall, on conviction thereof, suffer death.

itary law, shall commit any of the offences in this section mentioned shall be deemed to be guilty of an offence against military law, and if charged under this section with any such offence (in this Act referred to as a civil offence) shall be liable to be tried by court-martial, and on conviction to be punished as follows; that is to say,

(1) If he is convicted of treason, be liable to suffer death, or such less punishment as is in this Act mentioned; and

(2) If he is convicted of murder, be liable to suffer death; and

(3) If he is convicted of manslaughter or treason-felony, be liable to suffer penal servitude, or such less punishment as is in this Act mentioned; and

(4) If he is convicted of rape, be liable to suffer penal servitude, or such less punishment as is in this Act mentioned; and

(5) If he is convicted of any offence not before in this Act particularly specified which when committed in England is punishable by the law of England, be liable, whether the offence is committed in England or elsewhere, either to suffer such punishment as might be awarded to him in pursuance of this Act in respect of an act to the prejudice of good order and military discipline, or to suffer any punishment assigned for such offence by the law of England.

Provided as follows:—

(*a*) A person subject to military law shall not be tried by court-martial for treason, murder, manslaughter, treason-felony, or rape committed in the United Kingdom, and shall not be tried by court-martial for treason, murder, manslaughter, treason-felony, or rape committed in any place within Her Majesty's dominions, other than the United Kingdom and Gibraltar, unless such person at the time he committed the offence was on active service, or such place is more than one hundred miles as measured in a straight line from any city or town in which the offender can be tried for such offence by a competent civil court.

(*b*) A person subject to military law when in Her Majesty's dominions may be tried by any competent civil court for any offence for which he would be triable if he were not subject to military law.

[The two articles which did not come to us from England are the forty-ninth and fifty-eighth. The forty-ninth article is taken from an act of Congress of August 5, 1861, and is understood to have been directed at those officers of the Army who at the beginning of the war tendered their resignations and went South without waiting for their acceptance. The fifty-eighth article was originally enacted in 1863, and was particularly intended to give jurisdiction to courts-martial over the offences named when committed in territory occupied by the Army. Section 1343, of the Revised Statutes, relating to spies, is not properly speaking an Article of War at all, but is declaratory of the law of war.]

From the foregoing it will be seen that with one modification the English code remains as regards capital punishment substantially as it was at the time of the Revolution. The modification is that the infliction of capital punishment has been as to some of the offences named limited to occasions of "active service," by which is meant occasions when the soldier "is attached to or forms part of a force which is engaged in operations against the enemy, or is engaged in military operations in a country or place wholly or partly occupied by an enemy, or is in military occupation of any foreign country." (Manual of Military Law, War Office, Section 189.)

The Major-General commanding the Army takes a step in advance of the English code of to-day in expressing the belief that capital punishment is not necessary under any circumstances in time of peace, and in this view I concur, except as to one military offence hereafter to be mentioned.

Since the war of the rebellion, that is, since the status of war ceased, the death sentence has been awarded by court-martial twenty times and by military commission nine times. The court-martial cases were the following:

Number.	Number of Order from Headquarters of the Army.	Offence.
1	G. C. M. O., 50, 1867	Mutiny.
2	G. C. M. O., 66, 1867	Do.
3	G. C. M. O., 69, 1867	Mutiny, and assaulting and stabbing superior officer with a bayonet.
4	G. C. M. O., 69, 1867	Mutiny, and assaulting and striking commanding officer with musket.
5	G. C. M. O., 83, 1867	Mutiny, striking superior officer, and desertion.
6	G. C. M. O., 84, 1867	Mutiny, and striking superior officer.
7	G. C. M. O., 103, 1867	Mutinous conduct.
8	G. C. M. O., 103, 1867	Mutinous conduct and disobedience of orders.
9	G. C. M. O., 3, 1868	Drunkenness on duty; sleeping on post; mutinous conduct, and disobedience of orders.
10	G. C. M. O., 29, 1868	Mutiny, etc.
11	G. C. M. O., 29, 1868	Do.
12	G. C. M. O., 29, 1868	Do.
13	G. C. M. O., 70, 1869	Shooting and killing an officer who was in the execution of his office.
14	G. C. M. O., 32, 1870	Mutiny and disobedience of orders.
15	G. C. M. O., 32, 1870	Do.
16	G. C. M. O., 32, 1870	Do.
17	G. C. M. O., 40, 1873	Mutiny, etc., and killing a sergeant.
18	G. C. M. O., 12, 1882	Offering violence to and shooting at superior officers; mutiny; failing to quell mutiny; desertion, and murder.
19	G. C. M. O., 12, 1882	Do.
20	G. C. M. O., 12, 1882	Do.

Only the sentences in the last three cases were carried into execution; of the others one was remitted and the rest were commuted. The conditions existing at the time when the offences in the last three cases

(of Indian scouts) were committed are set forth in the specification to the charge of murder—

In that * * * a duly enlisted soldier in the service of the United States did, in time of war, insurrection, rebellion, or hostilities with hostile Indians willfully, premeditately, and with malice aforethought, join the hostile Indians, and with them shoot at and kill Capt. E. C. Hentig, Sixth Cavalry, privates William Miller, Henry C. Bird, Edward D. Livingstone, John Sondregger, and Thomas J. Foran, Company D, Sixth Cavalry. This at Cibicu Creek, Ariz. T., on or about August 30, 1881.

So that since the war of the rebellion there have been no executions by virtue of the sentences of courts-martial for offences committed in time of peace, but there have been three for offences committed during hostilities with Indians.

The trials by military commission resulting in death sentences have been as follows:

Number.	Number of Order from Headquarters of the Army.	Offence.
1	G. C. M. O., 40, 1869	Murder.
2	G. C. M. O., 41, 1869	Do.
3	G. C. M. O., 42, 1869	Do.
9. Six Modoc Indians	G. C. M. O., 32, 1873	Murder of Gen. Canby.

Of these nine sentences the second and four of the last mentioned were carried into execution, one was disapproved, and the rest were commuted. Case No. 2 was tried in Texas by a military commission convened by virtue of the authority of the Reconstruction Acts. The Modocs were tried for a flagrant violation of the laws of war, but not for the violation of any statutory code.

The Major-General commanding the Army, in his letter which is quoted in full in Gen. Curtis's speech, says:

I have observed that your bill proposes no exceptions whatever to the abolition of the death penalty. Perhaps this has been based upon the belief, in which I concur, that such punishment is not necessary under any circumstances in time of peace, and if necessary in time of war, it can be provided by special enactment. I am not prepared to say that the death penalty is not necessary in war under some circumstances, and for certain exceptional offences, which offences endanger the success of military operations and even the safety of an army, in which cases the certain and immediate execution of the death penalty may be the only sufficient deterrent from the commission of such crimes. I do not think it would be wise to take from the commander of an army in the field the power to inflict such punishment when he finds it necessary; but I do not know any other case in which, in my judgment, the substitution of imprisonment for life in place of the death penalty would not increase rather than diminish the deterrent effect upon those disposed to commit crime.

I agree with the Major-General commanding the Army in his general view of the subject under discussion, but I believe that it may be found necessary to make one exception to the abolition of capital punishment in the Army in time of peace—namely, as to mutiny accompanied with the taking of life. By the English code this military crime is still punishable in time of peace with death; and naturally so, because it is the most dangerous one to which a military command can be exposed. I speak here of mutiny in its worst form, when murder is committed and military authority overthrown. There are sometimes mutinies of a less serious character, not imperiling the safety of a command, which of course do not call for the extreme penalty of the law. It is only aggravated mutiny to which I refer. With this exception there seems to be no reason why the death penalty in time of peace should not be abolished by statute. I ought, however, here to call attention to the fact that in no instance are the Articles of War mandatory as to the

award of capital punishment on conviction of an offence in time of peace, but whenever the death penalty is made lawful courts-martial are authorized to award it or such other punishment as they may deem best; and in time of war they have the same discretion under all the articles authorizing capital punishment except the fifty-seventh.

The most memorable and the saddest execution for mutiny which the history of this country records occurred in 1842 on board the United States brig *Somers*, when Midshipman Spencer (a son of the Secretary of War) and two of the crew were hanged. Commander Mackenzie by whose order it was done believed that there was a conspiracy to kill the officers and to seize and convert the vessel into a pirate. There was no trial, but the matter was laid before the officers of the ship, and it was with their approbation that the men were hanged. When on the arrival of the vessel at New York it became known that this extreme measure had been taken the excitement was intense, and Commander Mackenzie was bitterly attacked. He was however acquitted by a naval court-martial before which the matter was brought. I express no opinion upon the merits of this notable case; I desire only to refer to it as a good illustration of what may be done in suppressing a mutiny, and of the difference between the suppression of a mutiny and the punishment of the mutineers. Assuming that the facts were as Commander Mackenzie believed them to be, and that it was necessary in order to save the ship and the lives of its officers that these men should be executed, then the right of self-preservation was a justification for the act. But this justification can only extend to an act done during the existence of the mutiny. When a court-martial is convened for the trial of the mutineers the mutiny has been suppressed, and the immediate danger is passed. The question is no longer what may be done as a measure of self-preservation, but what punishment should be awarded in order to deter others from committing the offence; and as to this I believe that the death penalty is not necessary in time of peace except in cases of aggravated mutiny, accompanied with the taking of life.

Referring now to the military commissions above mentioned, the first three arose under the Reconstruction Acts and require no especial notice, as the conditions which called them forth will never be repeated. The others were the military commissions by which the Modoc Indians were tried. These were not statutory courts, but were held to be justified by the law of war. I quote at length from the opinion of Attorney-General Williams (14 Opinions, 249) as showing on what the trial by military commission in such cases rests:

"Instructions" were prepared, in 1863, by Francis Lieber, LL.D., revised by board of officers, of which Gen. E. A. Hitchcock was president, and, after approval by the President of the United States, were published for the government of armies of the United States in the field. Section 13 of these "instructions" is as follows:

"Military jurisdiction is of two kinds: first, that which is conferred and defined by statute; second, that which is derived from the common law of war. Military offences under the statute law must be tried in the manner therein directed; but military offences which do not come within the statute must be tried and punished under the common law of war. The character of the courts which exercise these jurisdictions depends upon the local laws of each particular country.

"In the armies of the United States the first is exercised by courts-martial; while cases which do not come within the 'Rules and Articles of War,' or the jurisdiction conferred by statute on courts-martial are tried by military commissions."

All the authorities which I have been able to examine upon this subject harmonize with these "instructions."

According to the laws of war there is nothing more sacred than a flag of truce dispatched in good faith, and there can be no greater act of perfidy and treachery than the assassination of its bearers after they have been acknowledged and received by those to whom they are sent. No statute of the United States makes this

act a crime, and, therefore, it is not punishable under the "Rules and Articles of War;" and if punishable at all, it must be through a power derived from the usages of war.

Kindred to the act in question in bad faith, is the breaking of his parole by a paroled prisoner. While the United States were at war with Mexico, several officers of the Mexican army were tried by a military commission composed of officers of the United States army, convicted, and sentenced to be shot, and executed, for breaking their parole.

Numerous trials of a similar nature took place during the war of the rebellion. But there are no statutory provisions whatever upon the subject, and the whole power of the military authorities in such cases is derived from the usages of war.

On the 23d of August, 1865, a military commission duly appointed assembled in the city of Washington for the trial of Henry Wirz, who pleaded, among other things, that the military commission had no jurisdiction over either his person or over the subject-matter of the charges and specifications, being a tribunal unauthorized by either statute, military law, martial law, or well-established usage; but this plea was overruled, and he was convicted upon several charges, one of which was "murder in violation of the laws and customs of war," and after sentence he was hung for his crimes.

All the proceedings in this case derived their authority and validity from the common law of war. Certain persons, it will be remembered, were tried and convicted in the same way for the assassination of President Lincoln.

Attorney-General Speed, in discussing this subject, (11 Opinions, 297) says: "We have seen that when war comes the laws and usages of war come also, and that during the war they are a part of the laws of the land. Under the Constitution, Congress may define and punish offences against those laws; but in default of Congress defining those laws and prescribing a punishment for their infraction, and the mode of proceeding to ascertain whether an offence has been committed, and what punishment is to be inflicted, the Army must be governed by the laws and usages of war as understood and practiced by the civilized nations of the world."

Again: "If the prisoner be a regular unoffending soldier of the opposing party to the war, he should be treated with all the courtesy and kindness consistent with his safe custody; if he has offended against the laws of war he should have such trial and be punished as the laws of war require.

"A spy, though a prisoner of war, may be tried, condemned, and executed by a military tribunal without a breach of the Constitution. A bushwhacker, a jayhawker, a bandit, a war-rebel, an assassin, being public enemies, may be tried, condemned, and executed as offenders against the laws of war. * * * The law of nations, which is the result of the experience and wisdom of ages, has decided that jayhawkers, banditti, etc., are offenders against the laws of nature, and of war, and as such amenable to the military. Our Constitution has made those laws a part of the law of the land." (See, also, Vattel, 359; Wheaton's Int. Law, 406; Woolsey's Int. Law, 220; Halleck's Int. Law, 400.)

Milligan's case (4 Wallace, 2) holds, under the circumstances therein stated, a military commission to be illegal. But the facts there are entirely different from those under consideration. Milligan was the resident of a State not in rebellion. The courts were open and unobstructed for his prosecution. He was neither a prisoner of war nor attached in anyway to the military or naval service of the United States.

According to the "instructions" heretofore referred to, no civil tribunal has jurisdiction in the case disclosed by the papers before me.

Sections 40 and 41 thereof are as follows:

"40. There exists no law or body of authoritative rules of action between hostile armies, except that branch of the law of nature and nations which is called the law and usages of war on land.

"41. All municipal law of the ground on which the armies stand or of the countries to which they belong is silent and of no effect between armies in the field."

Manifestly, these rules to a great extent, if not altogether, are correct; for it can not be pretended that a United States soldier is guilty of murder if he kills a public enemy in battle, which would be the case if the municipal law was in force and applicable to an act committed under such circumstances.

All the laws and customs of civilized warfare may not be applicable to an armed conflict with the Indian tribes upon our western frontier; but the circumstances attending the assassination of Canby and Thomas are such as to make their murder as much a violation of the laws of savage as of civilized warfare, and the Indians concerned in it fully understood the baseness and treachery of their act.

It is difficult to define exactly the relations of the Indian tribes to the United States; but as they have been recognized as independent communities for treaty-making purposes, and as they frequently carry on organized and protracted wars, they may properly, as it seems to me, be held subject to those rules of warfare which make a negotiation for peace after hostilities possible, and which make perfidy like that in question punishable by military authority.

Doubtless the war with Modocs is practically ended, unless some of them should escape and renew hostilities. But it is the right of the United States, as there is no agreement for peace, to determine for themselves whether or not anything more ought to be done for the protection of the country or the punishment of crimes growing out of the war.

Section 59 of said "instructions" is as follows: "A prisoner of war remains answerable for his crimes committed against the captor's army or people, committed before he was captured, and for which he has not been punished by his own authorities."

My conclusion, therefore, is that a military commission may be appointed to try such of the Modoc Indians now in custody as are charged with offences against the recognized laws of war, and that if upon such trial any are found guilty they may be subjected to such punishment as those laws require or justify.

These military commissions are not statutory courts, and are not subject to the statutory provisions applicable to the statutory military courts. This is mentioned because, as the fifth section of Gen. Curtis's proposed substitute for the reported bill reads, these non-statutory courts are not covered by its provisions. It is as follows:

SEC. 5. That the punishment of death prescribed for the violation of any provision of the United States statutes is hereby abolished, and all laws or parts of laws inconsistent with this act are hereby repealed.

The sentences of death in the cases mentioned were not awarded for the violation of any provisions of United States statutes, and therefore such cases would not be reached by the proposed bill.

But, I do not believe that the abolition of the death penalty can be made to apply to war, for the reason that the safety of the Army in time of war makes the death penalty necessary in certain cases, and because if abolished by statute recourse would be had to it under the law of military necessity. I think there can be no doubt as to that. Even with our present military code thirty-seven of the two hundred and sixty-seven actual executions of enlisted men during the war of the Rebellion were without the sanction of any statutory law. In most of these thirty-seven cases some form of trial was had, but in eight of them there was no trial at all—nothing, in fact, except the order of an officer. If the death penalty by sentence of court-martial in time of war should be abolished the effect would be to increase the number of executions without statutory trial, for the necessities of war would be held to justify that which the statute withheld and even that which the statute should forbid. But if the necessities of war are such it is surely safer and in every way better that the punishment should be imposed by a statutory sentence after a trial by a statutory court than that recourse should be had to proceedings not recognized by law.

I think, however, that the Articles of War authorizing capital punishment might to some extent be modified even as to time of war. For instance, of the two hundred and sixty-seven executions during the late war one hundred and thirty-nine were for desertion, and any degree of desertion is in time of war punishable with death. But, as we well know, there are many degrees of desertion—from him who deserts one day and repents and voluntarily returns the next, to him who deserts to the enemy. The law should not treat these alike. The death penalty should be reserved for the soldier who deserts to or in the immediate presence of the enemy; desertion of a less degree ought not to be punishable with death. So, the fifty-seventh article of war, which is the only one that is absolutely mandatory as to the award of the death penalty, ought certainly to be modified. And it would on examination probably be found that other ameliorations could be made. But the entire abolition of the death penalty for war crimes is, I think, impracticable.

The reports of the judge-advocates of departments contain valuable information, and the recommendations made deserve careful consideration.

Very respectfully, your obedient servant,

G. NORMAN LIEBER,
Acting Judge-Advocate-General.

REPORT OF LIEUT. COL. THOMAS F. BARR, DEPUTY JUDGE-ADVOCATE-GENERAL, JUDGE-ADVOCATE DEPARTMENT OF THE EAST.

HEADQUARTERS DEPARTMENT OF THE EAST,
JUDGE-ADVOCATE'S OFFICE,
Governor's Island, N. Y., September 16, 1892.

SIR: In obedience to the provisions of paragraph 984, Army Regulations, as amended by General Orders No. 19, current series, Adjutant-General's Office, and your letters of July 20 and 26, 1892, I have the honor to submit the following report of the business of this office for the period commencing October 1, 1891, and ending August 31, 1892.

Number of cases tried by general courts-martial:

Commissioned officers	2
Non-commissioned officers	31
Privates	431
Total	464

The offenses alleged against commissioned officers were laid as follows:

Violation of the sixtieth article of war	1
Violation of the sixtieth and sixty-first articles of war	1
Total	2

The offenses alleged against enlisted men were violations of the Articles of War as follows:

Violation of the—		Violation of the—	
Seventeenth	4	Thirty-second and sixty-second	32
Seventeenth and thirty-second	3	Thirty-third	12
Seventeenth, thirty-second, and sixty-second	2	Thirty-third and thirty-eighth	1
Seventeenth and forty-seventh	9	Thirty-third and sixty-second	13
Seventeenth and sixty-second	3	Thirty-eighth	24
Twentieth	1	Thirty-eighth and sixty-second	4
Twenty-first and thirty-second	4	Thirty-ninth	14
Twenty-first and thirty-third	2	Thirty-ninth and forty-seventh	1
Twenty-first and thirty-eighth	1	Thirty-ninth and sixty-second	2
Twenty-first and sixty-second	4	Fortieth	1
Twenty-fourth and sixty-second	1	Fortieth and sixty-second	3
Thirty-first and thirty-third	1	Forty-seventh	107
Thirty-first and sixty-second	1	Forty-seventh and sixty-second	5
Thirty-second	41	Sixty-second	150
Thirty-second and thirty-third	16	Total	462

Of the enlisted men brought to trial by general courts-martial 24 were acquitted.

Number of cases tried by garrison courts-martial, 43.
The offenses alleged under the Articles of War were as follows:

Violation of the—		Violation of the—	
Thirty-second	7	Sixty-second	28
Thirty-second and thirty-third	3	Total	43
Thirty-second and sixty-second	3		
Thirty-eighth	2		

Number of different men tried, 39.
Number acquitted, 9.
Number of cases tried by summary courts, 3,626.

The offenses alleged under the Articles of War were as follows:

Violation of the—		Violation of the—	
Seventeenth	7	Thirty-second, thirty-third, and sixty-second	12
Seventeenth and sixty-second	1	Thirty-third	827
Twentieth	1	Thirty-third and sixty-second	47
Thirty-first	6	Thirty-eighth	97
Thirty-first and thirty-third	6	Thirty-eighth and sixty-second	9
Thirty-second	1,069	Fortieth	6
Thirty-second and thirty-third	105	Sixty-second	1,364
Thirty-second and sixty-second	68	Total	3,626
Thirty-second, thirty-third, and thirty-eighth	1		

Number acquitted, 76.

Number of different men tried was as follows:

Number tried—		Number tried—	
Once	1,017	Seven times	11
Twice	445	Eight times	7
Three times	219	Nine times	5
Four times	109	Ten times	1
Five times	60		
Six times	23	Total	1,897

The number of summary court cases tried at the different posts in the department and the average strength of each garrison will be found shown by the following table:

Name of post.	Average strength of garrison.	Number of cases tried.
Fort Porter, N. Y	113	87
Fort Niagara, N. Y	144	114
Fort Ontario, N. Y	61	39
Madison Barracks, N. Y	346	195
Plattsburg Barracks, N. Y	63	45
Fort Preble, Me	58	35
Fort Warren, Mass	115	193
Fort Adams, R. I	248	224
Fort Trumbull, Conn	63	38
Fort Hamilton, N. Y. H	265	237
Fort Wadsworth, N. Y. H	172	180
Fort Columbus, N. Y. H	173	172
Fort Wood, N. Y. H	56	26
Fort Schuyler, N. Y. H	99	68
Fort McHenry, Md	169	86
Washington Barracks, D. C	366	422
Fort Myer, Va	229	393
Fort Monroe, Va	340	169
St. Francis Barracks, Fla	132	78
Fort Barrancas, Fla	93	60
Mount Vernon Barracks, Ala	183	212
Fort McPherson, Ga	398	280
Jackson Barracks, La	161	84
Newport Barracks, Ky	64	28
Fort Thomas, Ky	220	161
Total		3,626

A comparison with the business of eleven months of the preceding year is submitted as follows:

Number of cases tried by general courts-martial from October 1, 1891, to August 31, 1892,

Commissioned officers	2
Enlisted men	462
Total	464

Number of cases tried by general courts-martial from October 1, 1890, to August 31, 1891,

Commissioned officers	6
Enlisted men	357
Total	363
Increase	101

Number of cases tried by garrison courts-martial from October 1, 1891, to August 31, 1892	43
Number of cases tried by summary courts during the same period	3,626
Total	3,669
Number of cases tried by garrison courts-martial from October 1, 1890, to August 31, 1891	87
Number of cases tried by summary courts during the same period	2,824
Total	2,911
Increase	758

The feature of the code of punishments authorizing dishonorable discharge in cases where the prisoner has been previously convicted a certain number of times largely accounts for the increase in the number of cases tried before general courts-martial, as recourse has been had to such courts to relieve the service of worthless men. The benefit of this should appear in the business of the next year. The marked increase of trials by summary courts does not, in my judgment, indicate a proportionate increase of offenses, but rather that recourse is now had to these courts for the punishment of minor offenses, such as were punished by deprivation of privileges or by admonishment before their creation. "Failure to have shoes cleaned," "failure to clean carbine," "appearing in a slovenly condition," appear as offenses frequently charged, with a usual penalty of 50 cents forfeiture. There is but a slight increase shown in the number of offenders. So far as my personal observation has gone of the troops in this department there has been an improvement in the conduct of the soldiers. The operation of the code of prescribed penalties has continued to prove satisfactory although the punishment for desertion is deemed too mild for so serious a crime.

Very respectfully,

THOMAS F. BARR,
Deputy Judge-Advocate-General, Judge-Advocate.

The ACTING JUDGE-ADVOCATE-GENERAL, U. S. ARMY,
Washington, D. C.

REPORT OF MAJ. EDWARD HUNTER, JUDGE-ADVOCATE, U. S. ARMY, JUDGE-ADVOCATE DEPARTMENT OF CALIFORNIA.

HEADQUARTERS DEPARTMENT OF CALIFORNIA,
OFFICE OF JUDGE-ADVOCATE,
San Francisco, Cal., September 7, 1892.

SIR: I have the honor to submit the following report of the business of this office, covering the period from October 1, 1891, to and inclusive of August 31, 1892.

Number of officers tried by general courts-martial	
Number of enlisted men tried by general courts-martial (of this number, 5 men were tried twice)	98
Number of trials by general courts-martial where charges were not sustained	8

The offenses for which these men were tried are summarized as follows:

Absence without leave (thirty-second article of war) in connection with other charges in some cases	30
Abusive and threatening language to sentry on post	1
Assault	1
Desertion (in connection with other charges in some cases)	26
Disobedience of orders of commissioned officers (twenty-first article of war)	3
Disrespect to commissioned officers	1
Drunk on guard	7
Drunk on duty	3
Drunk and disorderly	3
Drunkenness to the prejudice of good order and military discipline, in connection with other charges in some cases	6
Escaping from the guard while a general prisoner	1
Failing to pay just debts (sixty-second article of war)	1
False statement to commanding officer	1
Forgery	1
Larceny	1

Losing clothing (seventeenth article of war)	1
Leaving his post while on guard	1
Neglect of duty	4
Selling Government property (sixtieth article of war)	1
Theft	5
Total	98

No trials have been held by regimental courts.

The number of trials by garrison courts-martial, on appeal from trial by summary courts, was 20; number of men acquitted by garrison courts-martial, 5.

The offenses for which these men were tried are summarized as follows:

Absence without leave (thirty-second article of war)	2
Absence from roll calls	2
Abusive language and insubordinate conduct to non-commissioned officers	3
Assault	1
Disobeying the lawful orders of sentry	1
Disrespect to commissioned officers	4
Drunk at drill	2
Drunkenness to the prejudice of good order and military discipline	2
Leaving the ranks on march without authority	1
Neglect of duty	2
Total	20

The total number of trials by summary court was	1,037
Number of men acquitted by summary court	31

The offenses for which these men were tried are summarized as follows:

Absence without leave (thirty-second article of war) in connection with other charges in some cases	437
Absence from roll calls, parades, drills, inspections, guard-mounting, stables, (thirty-third article of war)	340
Abusive, threatening, and obscene language	4
Committing nuisance in barracks	2
Disobedience of orders and disrespect to commissioned officers	4
Disobedience of orders and disrespect to non-commissioned officers	16
Drunk on guard	1
Drunk on duty (under arms)	8
Drunk on duty (not under arms)	18
Drunk and disorderly	19
Drunkenness to prejudice of good order and military discipline	84
Fighting and other disturbances	7
Gambling	9
Lying out of quarters (thirty-first article of war)	1
Minor offenses, such as "having blouse unbuttoned," or violations of other post orders, charged as "conduct to the prejudice of good order and military discipline," not included under previous heads	69
Neglect of duty (sixty-second article of war)	17
Selling articles of clothing (seventeenth article of war)	1
Total	1,037

On the foregoing trials by summary court—

343 men were tried once	343
115 men were tried twice	230
63 men were tried three times	189
34 men were tried four times	136
15 men were tried five times	75
7 men were tried six times	42
2 men were tried seven times	14
1 man was tried eight times	8
580	1,037

The following data is submitted as a means of comparison between this and preceding year:

Average number of enlisted men serving in the Department of California for eleven months (October 1, 1891, to and inclusive of August 31, 1892) embraced in

this report, 1,230. Average number of enlisted men serving in Department of California for corresponding period preceding year (October 1, 1890, to and inclusive of August 31, 1891), 986. (First Infantry, averaging 321 enlisted men, absent in Department of Platte during months of December, 1890, and January and February, 1891, and deducted for those months in taking average strength of Department.) Increase for 1891-'92, 24.74 per cent.

Number of trials by general courts-martial from October 1, 1891, to and inclusive of August 31, 1892, 98; number of trials by general courts-martial from October 1, 1890, to and inclusive of August 31, 1891, 68; increase, 44 per cent.

Number of trials by garrison courts-martial from October 1, 1891, to and inclusive of August 31, 1892, 20; number of trials by garrison courts-martial from October 1, 1890, to and inclusive of August 31, 1891, 32; decrease, 37.5 per cent.

Number of trials by summary courts from October 1, 1891, to and inclusive of August 31, 1892, 1,037; number of trials by summary courts from October 1, 1890, to and inclusive of August 31, 1891, 737; increase, 40.7 per cent.

From October 1, 1891, to and inclusive of August 31, 1892, excluding 13 men, deserters from organizations in other military departments, the total number of trials was 1,142, embracing only 680 men, or 55.28 per cent of the enlisted strength of the department.

From October 1, 1890, to and inclusive of August 31, 1891, excluding 6 men, deserters from organizations in other military departments, the total number of trials was 831, embracing only 499 men, or 50.60 per cent of the enlisted strength of the department.

This increase over last year in the number of trials is partly accounted for by the fact that the enlisted strength of the department is greater this year than last, and partly because the general court-martial has afforded the means of ridding the service of undesirable men through the power it has to dishonorably discharge soldiers for offenses within the cognizance of the inferior courts on proper proof of a specified number of previous convictions.

SUMMARY COURTS.

Inquiry last year was made of the enlisted men as to their opinion of the change from garrison to summary court.

This year I have invited on this point the opinion and suggestions of officers in this department who have held such courts, and, as it happens, officers of long service and wide experience.

Their views are in effect as follows:

(1) "In my judgment the law governing summary courts, as now construed and enforced, needs modification as a matter of equity for the convicted as well as the Government, for these reasons: As at present restricted, the reviewing authority has no discretion beyond approval or disapproval. If a sentence is too severe, as appears to him, he can not exercise the power to mitigate and yet if he disapproves, the accused escapes all punishment and the interests of the Government suffer; the converse of this is true if he approves. I think the same rule of action on the part of the reviewing authority should be applied to summary as is the case with all other courts, both civil and military."

(2) "Considers trial by summary court preferable to the garrison court-martial on account of the speedy action, but does not think limits of punishment sufficient, especially for refractory characters. To avoid the inconsistency of a commanding officer acting upon a sentence which he has himself imposed, suggests that where the summary court officer is the accuser, the third ranking officer constitute the court for trial. Recommends that the authority to approve or disapprove a sentence include the power to remit or mitigate the same."

(3) "Has performed the duty of summary court since the passage of the act of Congress, at three posts, almost without interruption. The following points have suggested themselves in practice: First. No person should be brought before the court unless perfectly sober; this under the twenty-four-hour rule is not always done, and may lead to a further breach of discipline. Second. The power of commanders to mitigate sentences, I hold to be essential to discipline and fair administration of justice. Third. A record of evidence taken by summary court should be kept for a correct understanding of the case by the reviewing authority, and also as a guard against false swearing. I always keep such a record. Fourth. With the understanding that its use is not to extend to troops in the field and in front of the enemy, I hold the scale of punishments now in use to be fair, although leaning strongly towards leniency, but for armies in the field a different and far more drastic code should be prepared."

(4) "The summary court as compared with the garrison court a more convenient, expeditious, and inexpensive means of disposing of minor offenses. The hardship of confinement before trial reduced to a minimum. Is of the opinion the reviewing officer should have power to mitigate sentences."

(5) "Is of the opinion that the summary court is greatly superior to the old garrison court methods."

(6) "Is of the opinion that the summary court as now constituted works well and is entitled to further trial without change."

(7) "The summary court system is satisfactory, and worthy of further trial."

By a decision of the Secretary of War, it is made the duty of the summary court to enter on its record a note of the number of previous convictions it considered in determining on its sentence. (Decision Secretary of War, May 27, 1891.)

According to the same authority the summary court may take judicial notice of previous convictions appearing upon its own record. (Decision Secretary of War, January 22, 1892.)

Now where a company joins a garrison, previous convictions of its members by summary court not being of record at their new station, they may escape the increased punishment due to the consideration of such convictions, and there may result at the new station an inequality of punishment. To avoid this condition it is recommended that there be certified from the summary court of the old station to that of the new, the record of previous convictions in the cases of offenders belonging to the organization removed from its jurisdiction.

DESERTIONS.

The percentage of desertions in the Department of California from July 1, 1891, to June 30, 1892, was 8.03. The percentage of desertions in the Department of California from July 1, 1890, to June 30, 1891, was 4.21.

In the matter of discipline, at least, there seems to be with military service a proneness to go to extremes.

It is, therefore, essential to the maintenance of proper military discipline that in any departure from ancient and more severe systems we avoid the error of *coddling* the soldier.

It is possible to make the standard of education and virtue too high for ordinary soldiers to attain, and as a result have them quit the service either during or at the end of a first enlistment.

TAX ON THE PERSONAL PROPERTY (HOUSEHOLD EFFECTS) OF OFFICERS OF THE ARMY.

Officers on duty at these headquarters have been annoyed during this and preceding years with notifications from the offices of those having in charge the collection of city and county taxes, that assessments had been made on their household effects, and the tax thereon was due, or delinquent.

My written declination to pay, giving as a reason therefor the unconstitutionality of such taxation by a State, according to the doctrine laid down in Dobbins *vs.* Commissioners of Erie County (16 Peters, 435), was referred to the City and County Attorney, City and County of San Francisco, for his examination.

The report of this law officer is erudite and elaborate, and shows a careful and extensive research of authorities. It concludes:

"But an examination of the statutes of the United States discloses no statutory exemption of the household property of army or naval officers or other federal officials from State taxation.

"Under these circumstances I am compelled to express it, as my opinion, that, in the absence of express exemption either in the statutes of the United States or of the State of California, the personal property of officers in the Army and Navy is subject to State taxation."

It is my opinion that this vexed question ought to be authoritatively settled, and if the Constitution does not exclude the State taxing power in the case of the personal property of officers of the Army, the power of Congress should be invoked to create by legislation such exemption. In the present state of the question the garrisons of the department are liable to an annual invasion by the tax collector.

I renew my recommendation for some change of the system by which clerks are provided for officers of the Judge-Advocate's Department. The reasons for such change have been presented so often and so forcibly that it does not appear necessary for me to say more than that their cogency and the necessity for such change becomes each day of my experience more apparent.

Very respectfully, your obedient servant,

EDWARD HUNTER,
Judge-Advocate, U. S. Army.

The ACTING JUDGE-ADVOCATE-GENERAL, U. S. Army,
Washington, D. C.

REPORT OF MAJ. S. W. GROESBECK, JUDGE-ADVOCATE, U. S. ARMY, JUDGE-ADVOCATE DEPARTMENT OF THE MISSOURI.

HEADQUARTERS DEPARTMENT OF THE MISSOURI,
OFFICE OF THE JUDGE-ADVOCATE,
Chicago, Ill., September 13, 1892.

SIR: I have the honor to submit the annual report of the business of this office for the year ending August 30, 1892.

For the twelve months ending on the above date the average number of enlisted men serving in the department was 3,444.

The average enlisted strength reported last year was 3,004, showing an increase for this year of 14.62 per cent.

Owing to this report bearing date one month earlier than the report of last year, but eleven months of trials of enlisted men by general court-martial are embraced herein. Number for eleven months, 298; monthly average, 27; which added makes a total of actual and estimated trials for twelve months, 325.

Taking 325 as the basis of calculation, the percentage of trials is 9.43 as against a percentage last year of 9.35. This increase is apparently due to a noticeable increase in the number of deserters apprehended and brought to trial. Of the 298 trials, 18 resulted in acquittal.

The offenses are as follows:

For violation of the sixteenth article of war	1
For violation of the seventeenth article of war	21
For violation of the twentieth article of war	1
For violation of the twenty-first article of war	15
For violation of the thirty-first article of war	2
For violation of the thirty-second article of war	71
For violation of the thirty-third article of war	32
For violation of the thirty-eighth article of war	17
For violation of the thirty-ninth article of war	10
For violation of the fortieth article of war	4
For violation of the forty-seventh article of war	85
For violation of the sixtieth article of war	3
For violation of the sixty-second article of war	155

Of the number (85) tried for desertion, 11 were found guilty of absence without leave only, and the sentences in three cases were remitted upon recommendation by the court to clemency.

Forty-seven men were dishonorably discharged from the service upon the introduction of previous convictions. This is a large number to be so discharged, and the question not unfrequently arises as to the advisability of approving sentences to dishonorable discharge where the nature of the previous convictions does not seem to call for such radical action. Captains, however, seldom submit previous convictions except with the view to eliminate undesirable men from their companies, and as the court has better opportunities to judge of the advisability and justice of such elimination than is available to the reviewing authority, these sentences have been almost uniformly approved in this department.

In some cases there is not wanting evidence of intention on the part of men to blacken their record with the deliberate purpose of escaping from the service by dishonorable discharge. While these men certainly can be no loss to the service, it yet remains true that no system of administration should be such as to induce men to adopt an unlawful course of action with the view to secure a supposed personal benefit. The writer is strongly of the opinion that every sentence to dishonorable discharge, based upon previous convictions, should be accompanied with confinement at hard labor from three to six months, in the discretion of the court. A dishonorable way out of the service should also be an uncomfortable way.

Some doubt has arisen in this department relative to the scope of General Orders, No. 21, series of 1891, Headquarters of the Army, wherein, under the sixty-second article of war, certain punishments are prescribed for "disrespect or affront to a sentinel" and "resisting or disobeying sentinel in lawful execution of his duty." Post commanders who have been directed to execute the sentences of prisoners sentenced by general courts-martial to a term of months in confinement at hard labor have, in cases where the prisoners have refused to work or have been insolent to sentinels and non-commissioned officers of the guard having them in charge, preferred charges against them for such offenses. They seem to have assumed that recent laws and orders have made unavailable the customs of the service relating to guard-house or prison discipline.

This view has not been approved by the department commander, and post commanders have been directed to use such customary means of punishment in cases of

prisoners which, while being free from cruelty, shall be efficient in enforcing obedience to lawful commands and respectful demeanor toward those having authority over them. The punishment for the offenses above cited have been construed as referring to the cases of enlisted men not in confinement, and not to convicts or soldiers undergoing sentence of court-martial. To employ the jurisdiction of one court to enforce the sentence of another can hardly be conducive to good order and discipline. Somewhere the means of enforcing instant obedience among prisoners must be lodged. It is doubtless kinder to the prisoner and best for the service that the post or other commander be intrusted with enforcing the rules for the government of prisoners.

TRIALS BY INFERIOR COURTS.

Last year's annual report was rendered before the reports of summary courts had been received for the month of September. These reports are now embraced herein, giving twelve months, to August 31, with a total of trials by summary courts of 2,636, and by garrison courts-martial, 19; making in all, 2,655. Number of acquittals, 56.

Number of trials by inferior courts reported last year	2,187
Add last year's omitted September trials	214
Total of trials for twelve months	2,401
Percentage of trials for twelve months, 1891	79.96
Percentage of trials for twelve months, 1892	77.09
Decrease	2.87

These large percentages indicate that the summary court has permanently increased the number of trials, but when it is recalled that before the summary court was established it was customary to arbitrarily confine men in the guard-house for seven days without trial (often ill-advised), it is doubtful if there has been any actual increase in the number of punishments.

The summary court, however, needs no defense. It meets with general approval in the four following essential particulars:

(1) Speedy determination of cases.
(2) A decrease of the total number of days of punishment in the guardhouse, with
(3) A corresponding increase in the number of men for duty.
(4) Less irritation and protest among those subject to its jurisdiction.

Of the number tried by inferior courts, 995 were tried once; 294 twice; 142 three times; 72 four times; 28 five times; 15 six times; 8 seven times; 3 eight times; 2 nine times, and 1 eleven times, making the number of different men tried 1,560.

The following table gives the number and percentage of trials by inferior courts at the several posts in the department for the twelve months ending August 31, 1892.

Forts.	Enlisted strength.	Trials by summary court.	Apppeals to garrison court.	Cases of acquittal.	Total trials.	Per cent. of trials.
Brady	113	32	.....	3	32	28.31
Leavenworth	678	809	.....	28	809	119.10
Mackinac	111	57	2	1	59	53.15
Reno	360	333	.....	6	333	92.50
Riley	707	483	1	4	484	68.45
Sheridan	487	521	4	10	525	107.80
Sill	385	126	5	1	131	34.02
Supply	288	143	5	2	148	51.38
Wayne	260	101	2	.....	103	39.61
Oklahoma	55	31	.....	1	31	56.36
Total	3,444	2,636	19	56	2,655	.....

At but one post in the Department, Fort Sheridan, does the custom prevail with the summary courts of retaining pay until discharge. At all other posts fines are almost uniformly imposed. It is a question if the former practice is not quite as effective in maintaining discipline as the latter.

DESERTIONS.

The number of desertions for the fiscal year ending June 30, 1892 (A. R. 118, as amended by G. O. 145, A. G. O. 1890), and the probable cause therefor, as found by boards of survey, convened to investigate the cases are shown in Table I; the posts from which the desertions occurred, in Table II, below:

TABLE I.

The probable cause.	The year of enlistment.					
	First.	Second.	Third.	Fourth.	Fifth.	Total.
Cause unknown	48	6	5		1	60
Dissatisfied with the service	20	4	1			25
Fear of punishment, some offense committed	13	1	4	2		20
Heavily in debt	1	2	2	4		9
Chronic deserters—fear of detection	5		2			7
Worthless character	5		1			6
Influenced by women	4	1				5
Persuaded	3					3
Suspected of being a thief	1	2				3
Drunkenness, and effects thereof		1				1
Had been dishonest in money transaction		1				1
Clerk detected in dishonesty with company books		1				1
Lack of moral sense					1	1
Thought to have committed suicide		1				1
Home-sickness	1					1
Denied a furlough	1					1
Received money from home and deserted		1				1
Total	101	22	15	6	2	146

TABLE II.

Posts.	Strength.	Desertions.	Approximate per cent.
Fort Sill, O. T.	382	2	0.5
Fort Mackinac, Mich	109	1	0.9
Fort Wayne, Mich	258	6	2.3
Fort Brady, Mich	113	3	2.6
Fort Reno, O. T	359	10	2.7
Fort Leavenworth, Kans	678	26	3.8
Fort Supply, Ind. T	281	16	5.6
Fort Riley, Kans	696	45	6.4
Fort Sheridan, Ill	463	32	6.9
Camp Oklahoma, O. T	54	5	9.2
Total		146	

In addition to the above number, four men reported as deserters have been found guilty of absence without leave only.

The report for last year shows that the percentage of desertions in this department was about 5.3 per cent. of the command, while this year it is about 4.2 per cent.; a gratifying showing.

Of the above reported deserters, twenty-five have either surrendered or been apprehended and have been tried and convicted. This is an unusually large number to be so promptly brought to justice and, taken in connection with the large total number (eighty-five) tried for desertion in this department during the year ending June 30, seems to indicate that the recent increase in the reward from $30 to $60 has stimulated civil officers in their efforts to apprehend this class of offenders.

Very respectfully, your obedient servant,

S. W. GROESBECK,
Judge-Advocate, U. S. Army.

The ACTING JUDGE-ADVOCATE-GENERAL, U. S. Army,
Washington, D. C.

REPORT OF CAPT. H. C. CARBAUGH, ACTING JUDGE-ADVOCATE, DEPARTMENT OF TEXAS.

HEADQUARTERS DEPARTMENT OF TEXAS,
JUDGE-ADVOCATE'S OFFICE,
San Antonio, Tex., August 31, 1892.

SIR: Under the requirements of paragraph 984, Army Regulations, as amended by General Orders No. 19, Adjutant-General's Office, dated March 13, 1892, I have the honor to submit the following report based upon the records of this office for eleven months ending with this date

During this time 134 cases have been tried by general courts-martial, resulting in 5 acquittals and 129 convictions. The trials included 127 different men (no officers were tried) and 282 separate offenses. These were alleged as follows:

Absence from various roll calls	19	Drunk on duty	13
Absence without leave	29	Leaving post	1
Asleep on post	4	Provoking speeches	1
Desertion	33	Quitting guard	5
Disobedience of orders	6	Selling or losing Government property	10
Disrespect to superior officer	1	Theft	5
Disorderly conduct	2		

Disorders under the Sixty-second Article of War.

Assaulting	7	Neglect of duty (as sentinel)	10
Breaking arrest	7	Resisting arrest	7
Committing nuisance	4	Selling or losing Government property	2
Creating a disturbance	9	Theft	8
Disobedience of orders of non-commissioned officers	18	Threatening non-commissioned officer	8
Disrespect to non-commissioned officers	18	Miscellaneous	24
Drunk	23		
False statement to superior officer	6	Total	282
Neglect of duty	2		

The number of records of garrison courts-martial and reports of summary courts which have been received and filed in this office is as follows:

Garrison courts-martial	46
Summary courts	912
Total	958

(of which three garrison and twenty-four summary trials resulted in acquittals.) These cases included 571 different men and 1,268 separate offenses, as follows:

Offense.	Garrison.	Summary.	Offense.	Garrison.	Summary.
Absent from one to six hours		28	Disrespect to and disobedience of orders of non-commissioned officers	8	114
Absent from six to twelve hours	5	62	Drunk and disorderly in quarters	4	30
Absent from twelve to twenty-four hours	5	46	Drunk before commanding officer		1
Absent from twenty-four to forty-eight hours	3	27	Drunk as cook, etc	1	14
Absent two days and over		5	Drunk on daily or extra duty	4	81
Absent from drill	1	45	Drunk at drill		30
Absent from dress parade		28	Drunk at guard-mounting, etc		4
Absent from extra duty	2	26	Drunk in hospital as patient		4
Absent from guard, etc	2	21	Drunk on parade	1	10
Absent from hospital as patient		3	Drunk at retreat		3
Absent from inspection	1	18	Drunk off reservation	1	10
Absent from inspection (of quarters)	4	112	Drunk at stables	1	13
Absent from reveille and retreat	1	142	False statement to superior officer	1	14
Absent from school		12	Fighting		6
Absent from stables		52	Introducing liquor into quarters	1	13
Assault	2	4	Lying out of quarters		2
Breaking arrest		11	Miscellaneous	4	18
Committing nuisance in quarters	1	12	Neglect of duty	5	100
Creating a disturbance		26	Neglect to obey orders	1	14
Dirty condition of guns, accouterments, etc	1	31	Sitting down on post		3
Disobedience of orders		3		63	1,205
Disrespect to superior officer	2	6	Total	1,268	

Of the cases removed to garrison courts-martial for trial, 25 were so removed for the reason that the officer preferring the charges was the summary court, and 21, on objection to trial by such court. Post commanders in very few cases availed themselves of their power to act as summary courts.

In connection with the above statement of the number of different enlisted men tried, of trials had, and of separate offenses, it should be noted that the average enlisted strength during the time considered is 1,570, which is about 175 less than for the period covered by my report of last year, hence, the respective ratios of these

numbers to the strength of the command is about the same as for last year. In making any remarks or recommendations concerning the administration of military justice, one may say that existing practice is not materially defective or ineffectual, though it is quite evident that it does not always conform to existing statutes. This condition is doubtless due to the fact that this administration is being had under "piecemeal" legislation—made up of the Articles of War and isolated statutes relating to subjects included in the articles, a combination which, from a judicial standpoint, appears to be a very imperfect code. A systematic codification of these laws so as to exclude all that is obsolete and contradictory and to include accurate definitions of powers, obligations and prohibitions, not only as to individuals, but especially as to courts in the military establishment, seems to be necessary.

The garrison court-martial, with jurisdiction over all offenses not capital committed by enlisted men, has been superseded by a summary court whose powers and jurisdiction as to offenses are not accurately defined, the latter being, under existing rulings, determined by limits of punishments only—a most variable quantity even for the same offense. If the law creating the court means what it says, that offenses heretofore "cognizable" (this word being used in its usual legal meaning—capable of being tried) by garrison courts-martial "shall" be tried by summary courts, then general courts-martial, by statute, have no jurisdiction of anything except over offenses committed by officers and of capital cases in general. Practice, therefore, has had for its task to devise the possible system as it now exists by construing "cognizable" as meaning fitted, by limit of punishment, to be tried—a most difficult definition to apply when no limits are prescribed, and which requires beforehand the assumption that the court will not confirm an objection to the consideration of a record of previous convictions as forwarded.

During the past year several defects, or what seemed to be defects, in the rules of practice have appeared, as follows:

First. On a trial for desertion, for which the prescribed punishment is three months' confinement, with forfeiture of pay for the same period, a plea of guilty was entered to avoid any possible chance of dishonorable discharge through six previous convictions, which would have been submitted in the event of a finding of guilty of absence without leave. Also, a desertion while on guard was laid both as desertion and quitting guard, the former with the above-mentioned limit of three months' confinement and forfeiture and the latter with double that limit. It seems anomalous that desertion, formerly regarded as a crime, should by prescribed punishment be a less offense than absence without leave or quitting guard.

Second. When there are several offenses charged—and there usually are—of which the limit of punishment for each is either prescribed or is in general well established by custom as being less than dishonorable discharge, there seems, without a record of five or more previous convictions, to be an absence of authority to adjudge discharge, even though the punishment possible amounts to a very unusual amount of confinement and forfeiture.

Third. On a trial a finding of guilty of a single specification for which the prescribed limit is greater than the punishing power of a garrison court-martial prevents the use of previous convictions—unless there be five or more—in reference to the other specified offenses. If this be not the proper rule, then an attempt to use the previous convictions for a part of the offenses and excluding them as to certain others is too technical for practice.

Fourth. There have been numerous sentences given, both by inferior and general courts-martial, which were unauthorized by existing orders, notwithstanding the court was trying to adjudge them within the prescribed limits.

The existing method of determining the amount of punishment to be adjudged by courts-martial is too technical and complicated for general use for all conditions of service. In addition, it seems to me to involve a very doubtful principle of law, that of increasing, through previous convictions, specific punishments or limits of punishments for military offenses to be prescribed by the President under the Acts of Congress approved September 27 and October 1, 1890, for those statutes draw no distinction between an offense, whether committed first or in repetition, and do not seem to give any authority for establishing, for a specific offense, different limits depending on the previous record of him who has been convicted. For these and other reasons I would recommend that only maximum limits for offenses be prescribed, and that at every trial in the military service where it becomes the duty of a court to adjudge a sentence, that the record of previous convictions be submitted to enable the court to determine if it should deal leniently with the person convicted. This would enable the court to have, without reference to the knowledge of individual members, data for adjudging a sentence in furtherance of discipline; to at once reveal by the record to the reviewing authority as to whether that duty has been well performed, and to apply it as easily in the field as in garrison. I am of the belief that to preserve the dignity of courts-martial and to aid in securing evidence in trials before them there should be a statute directing that—

Where any person who is not subject to military law, on being duly summoned as a witness before a court-martial, makes default in attending; or being in attendance as witness thereat refuses to take an oath legally required of him, or refuses to answer any question to which such court may legally require an answer, or refuses to produce any document in his power or control legally required of him, such person shall be deemed guilty of a misdemeanor, and the president of the court-martial shall certify the offense of such person either to the district or the circuit court of the United States within the territorial jurisdiction of which the offense was committed, and said court shall thereupon cause such person to be arrested and shall inquire into the certified offense and, if it seem just, punish such person by, either or both, fine and imprisonment not to exceed certain amounts.

This method has the advantage of not being an entirely new one in military service.

It would be well, either that the maximum number for a general court-martial be reduced or that the convening authority have the discretion to assemble less than thirteen members regardless of the number that may be assembled without manifest injury to the service, for, in general, it is difficult to secure at any post this number or approximately this number without having a majority of inexperienced officers on the court. Starting with the juniors the decisions are frequently made before the vote is nearly completed.

Speedy trial of offenders by general court-martial has not always been secured during the past year, and if the garrison court-martial ever be reinstated to a more important and useful position than that which it now occupies in the present system, there are good reasons, in the isolated nature of certain small posts in this Department, for materially increasing its power to punish.

The trivial nature, in many cases, both of offenses tried and punishments administered by summary courts, as, for example, a fine of 25 cents for placing a soiled pitcher upon a mess table, causes one to think that there is, whether from real or fancied cause, too great a tendency to transfer responsibility for discipline from company and post commanders to summary courts, and to cause quick methods of trial to take the place of executive management, discretion, and tact. I doubt if the successful command and management of a company in the military service admit always of having disciplinary punishment administered by a disinterested hand.

As to the execution of sentences adjudged in the military service, I repeat a former statement, "that as the chief and resulting virtue must necessarily be derived from the administration of such punishment, that I am of the firm conviction that uniformity in guard-houses, in guard-house discipline and in methods of guarding and working prisoners should be strictly enforced throughout the service, so as to cause the former to be reformatory and to be avoided." To this may be added that there seems to be no good reason why a military prisoner should draw pay or be credited with faithful service for the time served in the guard-house.

The substantial results consummated in the past two years toward placing the offices of judge-advocates of the departments on a better basis, together with those now being completed, are, to say the least, very satisfactory.

In conclusion, it may in general be truthfully said that justice by military tribunals is administered with a degree of care and accuracy which is remarkable.

Very respectfully,

H. C. CARBAUGH,
Acting Judge-Advocate.

The JUDGE-ADVOCATE-GENERAL U. S. ARMY,
Washington, D. C.

REPORT OF CAPT. C. McCLURE, ACTING JUDGE-ADVOCATE, DEPARTMENT OF THE COLUMBIA.

HEADQUARTERS DEPARTMENT OF THE COLUMBIA,
JUDGE-ADVOCATE'S OFFICE,
Vancouver Barracks, Washington, August 31, 1892.

SIR: Pursuant to the provisions of paragraph 984, Army Regulations, as amended by General Orders No. 19, Adjutant-General's Office, current series, I have the honor to submit the following report.

The appendices herewith, which are made a part of this report, are as follows: General courts-martial, A; inferior courts-martial, B; desertions, C.

GENERAL COURTS-MARTIAL.

The number of trials had by general courts-martial in the department during the time covered by this report is 94 as against 129 had during the preceding twelve months. The large number of trials had last year, it is believed, was due in a great

measure to local and temporary causes referred to in my report for that year. The number of trials shown by this report is about what should have been expected, and does not call for special remark.

INFERIOR COURTS-MARTIAL.

The number of trials by summary court has been 830, by garrison courts-martial, 42; total 872, as against 1,298 last year. The decrease is gratifying, and may, in my opinion, be attributed largely to the following decision published in circular No. 13, Adjutant-General's Office, December 5, 1891: "The fact that the number of trials by inferior court-martial has greatly increased since the establishment of the summary court indicates that officers of the Army have the impression that under the present system they must bring every dereliction of duty before a court for trial, and that they are allowed no discretion in the matter. This is a mistake. Their discretion is the same now as it was under the garrison court system, and they are not obliged to bring cases before the summary court which they believe ought to be disposed of with an admonition or the withholding of privileges or indulgences. The extent of the exercise of this discretion within these limits is subject to the control of the commanding officer.

Another means of avoiding too many trials by the summary court would be afforded by permitting company, troop, and battery commanders, in their discretion and acting under the direction and control of commanding officers, to require soldiers guilty of minor offenses for which only slight punishments are authorized to elect between a trial by court-martial and a specified number of extra tours of company, troop, or battery fatigue duty.

An official sanction by the War Department of such a practice would, in my opinion, soon cause a marvelous reduction in the number of trials by the summary court, and would be authorizing and regulating, in time of peace, a practice which will of necessity find constant application in time of war.

DESERTIONS.

The number of desertions during the eleven months covered by this report is 55 as against 106 last year, showing a decrease of 51.

Attention is invited to Appendix C in which is set forth the causes, etc., of these desertions, ascertained by boards of survey, and comparison with similar data during the three preceding years.

The large decrease in the number of desertions during the first and second years of service indicates that the "Act to prevent desertions from the Army * * *," approved June 16, 1890, as carried into effect by General Orders 80 and 81, Adjutant-General's Office, series of 1890, is reducing very materially the number of desertions.

It seems to be the general opinion among the officers serving with troops, that the retention of $4 per month during the first year of an enlistment in the cases of men who are not serving their first enlistment and are not receiving re-enlistment or continuous service pay, works an unnecessary hardship upon such men and deters not a few of them from again entering the service.

It is believed that the law requiring this retention should be so amended as to limit the same to the first year of the first enlistment.

General Orders No. 21, Adjutant-General's Office, series of 1891, prescribing maximum punishments for most of the offenses which enlisted men may commit, having gone into effect March 28, 1891, has been in operation during the whole of the period covered by this report. It has been submitted to a thorough practical test, and the results in this department have been so generally satisfactory that I almost hesitate to recommend changes in any of the provisions of the order.

PREVIOUS CONVICTIONS.

The number of men dishonorably discharged by sentence of general court-martial is 42 out of 86 tried this year, as against 54 out of 123 tried last year. There have been but 13 convictions for desertion this year as against 23 last. Evidence of previous convictions—five or more—was submitted in 30 cases as against 27 last year, showing an increase of about 13 per cent this year over last when compared with the total number of men tried during the respective periods. Dishonorable discharge was adjudged in 20 of the 27, and 23 of the 30 cases. It is also observed that but 8 of the 123 men tried last year and 6 of the 86 tried this year by general courts-martial were tried more than once by such courts; and each of these was tried twice.

These facts justify, I think, the conclusion that the provisions of General Orders No. 21, relating to previous convictions, should be amended as hereinafter indicated.

These provisions are best expressed by the following official interpretation of them: "General Orders, No. 21, February 27, 1891, from this office, does not limit the introduction of evidence of previous convictions to cases when soldiers are on trial for offenses mentioned in the order, but does subject it to certain other limitations. When a soldier is on trial for desertion, evidence of previous desertions may go to increase his term of imprisonment; and so when on trial for an offense which, when committed for the first time, would be cognizable by an inferior court-martial, the punishment may be increased in regular proportion in view of previous convictions. But with these exceptions evidence of previous convictions can only be introduced under the following conditions: First, the trial must be for an offense not ordinarily punishable with dishonorable discharge; second, there must be at least five previous convictions; third, the only additional punishment that can be awarded in consequence of the introduction of such evidence is dishonorable discharge with forfeiture of pay and allowances." (Par. VI, Cir. No. 5, A. G. O., June 11, 1891.)

Evidence of previous convictions to aid in determining upon a sentence may be legitimately used for these two purposes, viz: (1) To justify disciplinary punishment on the ground that an old offender should be punished more severely than one on trial for his first offense, and (2) as evidence of incorrigibleness and worthlessness, and hence to justify dishonorable discharge from service.

The evident object of the provisions in question, as interpreted above, is to limit, within certain prescribed limits, the first use of previous convictions to the crime of desertion and offenses cognizable by inferior courts-martial, and in all other cases to *prevent* their use, except as evidence of incorrigibleness or worthlessness.

But there is a marked distinction between dishonorably discharging a soldier on account of previous convictions and for incorrigibleness as evidenced by these convictions.

Any attempt to limit the use of previous convictions to this latter purpose by prohibiting their use for any other purpose, is imposing a limitation which will, in practice, tend, in the nature of things, to cause courts to discharge soldiers on account of previous convictions as a rule rather than for incorrigibleness as an exception, thus defeating the principal object which the limitation was intended to accomplish.

In my opinion, the power of a court-martial to consider previous convictions to aid it in determining upon a sentence should be subjected to proper limitations as to the amount and character of punishment which may be adjudged in consequence thereof; but a limitation of this power, except as to time, which is intended and will operate to prevent the *introduction* of such evidence should not be imposed. A court-martial should always have power, especially in cases where maximum punishments are prescribed, to consider for the purpose of disciplinary punishment all previous convictions, if any, had within a prescribed period.

After a careful consideration of this whole matter I have reached the following conclusions:

(1) An inferior court-martial should have power in the cases of old offenders, *i. e.*, those previously convicted four or more times within a prescribed period, to adjudge for minor offenses, where the same is not already authorized, the limit named in the eighty-third Article of War.

Of the 1,018 offenses tried by inferior courts during the time covered by this report 592 were violations of the thirty-second and thirty-third Articles of War, (absences without leave, and from roll-calls, drills, etc.). Of the 520 men tried 84 were tried three or more times.

A short absence without leave and an absence from a roll-call, drill or other formation, when considered as a loss of time or service to the Government, are trivial offenses, but when willfully and repeatedly committed, evince on the part of the offenders a disregard for law and regulations subversive in the highest degree of military discipline and control.

This distinction, considered in connection with the data just cited, it is believed, would justify giving inferior courts the power suggested.

(2) While courts-martial should have power to discharge from the service men who persistently defy the requirements of discipline, as evidenced by previous convictions, yet to deter those who would enter upon a line of bad conduct to invoke such penalty, said courts should have power to add, in all cases, *some* confinement at hard labor to dishonorable discharge.

(3) Five previous convictions should not sustain a sentence of dishonorable discharge unless at least one by general court-martial is included.

(4) In every trial by a general court-martial, after a finding of guilty, where a discretionary punishment is authorized, evidence, if any, of all previous convictions had within a prescribed period should be required to be submitted to the court to aid it in determining upon its sentence. Where the prescribed limit of punishment is such that it should not be increased by reason of previous convictions, they should be considered in determining whether *that limit* should be imposed.

It is firmly believed that if the rules suggested above were adopted, the authorized maximum punishments would cease to be practically specific penalties for the offenses named, but would be inflicted "in those cases where the severest punishment should be awarded" and "in other cases would be graded down according to the extenuating circumstances;" and, finally, that the practice of discharging men on account of previous convictions would soon conform to the theory upon which it is based.

It is therefore recommended that the provisions of General Orders No. 21, Adjutant-General's Office, series of 1891, relating to previous convictions, be amended accordingly.

Very respectfully, your obedient servant,

C. McCLURE,
Captain and Acting Judge-Advocate.

The ACTING JUDGE-ADVOCATE-GENERAL, U. S. ARMY,
Washington, D. C.

APPENDIX A.

GENERAL COURTS-MARTIAL.

Number of general court-martial records received, revised, recorded, and forwarded to the Acting Judge-Advocate-General during the eleven months ending August 31, 1892:—Ninety-four cases of enlisted men.

Convictions	90
Acquittals	4
Total cases	94

Comparison of total number with that of two previous years:

Cases tried 1889–'90	56
Cases tried 1890–'91	130
Cases tried 1891–'92	94
Decrease from last year	36

Seventy-eight men tried once, seventy-eight cases; 8 men tried twice, sixteen cases; 86 men tried with a total of ninety-four cases. One officer of the Fourth Infantry tried during the year.

Distribution of cases tried by general courts among the different military posts of the department.

Post.	Cases tried at post.	Of men belonging to post.	Of men belonging to other posts.	Of men belonging to other departments.	Men of post tried at other posts.	Total number of men of post tried.	Average strength of garrison.	Per cent.
Boise Barracks	4	4	.....	.....	1	5	100	5.0
Fort Canby	.....	.....	.....	.....	7	7	105	6.7
Fort Sherman	34	31	2	1	3	34	287	11.8
Fort Spokane	.....	.....	.....	.....	3	3	173	1.7
Fort Townsend	.....	.....	.....	.....	1	1	65	1.5
Vancouver Barracks	47	25	17	5	.....	25	421	5.9
Fort Walla Walla	9	2	5	2	9	11	199	5.5
Total and average	94	62	24	8	24	86	1,350	6.4

Classification of offenses tried by general courts in the department for the eleven months ending August 31, 1892, and comparison of number of cases tried for desertion with that of previous year, etc.

Offense.	Finding guilty.	Finding not guilty.	Total.
Selling or losing public property (article 17)	4	2	6
Disrespect to his commanding officer (article 20)	1		1
Disobedience of orders (article 21)	3		3
Absence from 11 p. m. inspection (article 31)	1		1
Absence without leave (article 32)	18		18
Absence from roll-calls, drills, etc., (article 33)	12		12
Drunk on duty (article 38)	13	1	14
Leaving or sleeping on post (article 39)	3	2	5
Quitting guard without leave (article 40)	4		4
Desertion (article 47)	13	1	14
Making false claim against Government (article 60)	1		1
Disorders charges as "Conduct to the prejudice of good order and military discipline" (article 62)	68	6	74
Total offenses	141	12	153

Number of convictions of desertion	13
Convicted of "absence without leave," charge "desertion"	1
Number of cases tried for desertion, 1891-'92	14
Number of cases tried for desertion, 1890-'91	27
Number of trials for desertion this year less than last	13
Number of men dishonorably discharged by sentence of general court-martial	42
Same, last year	54
Number of trials in which evidence of previous convictions was introduced	30
Same, last year	33
Number of non-commissioned officers reduced to the ranks	4

Table exhibiting the organization to which the enlisted men tried by general courts belong.

Organization.	Band.	A.	B.	C.	D.	E.	F.	G.	H.	I.	L.	Total.
First Cavalry				1								1
Second Cavalry									1			1
Fourth Cavalry	2	2		1	2		4	6	4			21
Eighth Cavalry		1										1
Fifth Artillery						4					2	6
Fourth Infantry		9	2	1	2	1	5	3	5			28
Seventh Infantry								1				1
Ninth Infantry				1								1
Fourteenth Infantry		1	2	3	5	5	4	3				23
Twentieth Infantry						1						1
General Service												1
Hospital Corps												1
Total number of men tried												86

APPENDIX B.

INFERIOR COURTS-MARTIAL.

Garrison courts-martial.

Number of cases tried by garrison courts-martial during the eleven months ending August 31, 1892	42
Number of men tried	37
Convictions	38
Acquittals	4
Total cases	42
Number of "removals" to garrison courts-martial upon request of accused	40
Number of trials by garrison courts-martial where summary court was the accuser	2
Investigation by regimental court-martial	1

Summary courts.

Number of cases tried by summary courts during the year ending August 31, 1892	*830
Number of men tried	*484
Convictions	799
Acquittals	31
Total cases	830
Sentences set aside, wholly or in part, limit of punishment having been exceeded	7
Non-commissioned officers reduced to the ranks by sentence of inferior court	12
Forfeitures imposed and executed	$3,051.05
Number of days confinement at hard labor	2,697
Number of days solitary confinement	8
Number of days solitary confinement on bread and water diet	73
Number of days garrison arrest	6
To be reprimanded by regimental commander	1
To be reprimanded by company commander	1
Amount of pay detained; to be paid on final statements	$1,410.00
Number of summary court cases, 1891–'92	830
Number of garrison court cases, 1891–'92	42
Number of cases tried by inferior courts	872
Number tried last year	1,298
Decrease from last year	426

Distribution of cases tried by inferior courts, with number confined and released without trial, at the posts of the department.

Post.	Strength of garrison.	Number of cases tried.		Number of men tried.	Per cent. men tried.	Number confined and released without trial.
		Summary.	Garrison.			
Boise Barracks	100	74	1	50	50	6
Fort Canby	105	38	2	32	30.5	.....
Fort Sherman *a*	287	147	2	91	31.7	10
Fort Spokane *b*	173	122	7	69	39.9	2
Fort Townsend	65	57	.....	27	41.5	3
Vancouver Barracks *c*	421	194	27	135	32.1	46
Fort Walla Walla	199	197	3	116	58.3	3
Total	1,350	829	42	*d* 520	38.5	70

a One man of this command tried at camp at Wardner, Idaho, during July, 1892, included.
b Six men of this command tried at camps at Wardner and Wallace, Idaho, during July and August, 1892, included.
c Eleven men of this command tried at camp at Wallace, Idaho, during July and August, 1892, included.
d One man of Twenty-fifth Infantry, tried at camp at Wardner, Idaho, not included.

*Case of one man belonging to Company F, Twenty-fifth Infantry, temporarily serving in the department, tried at camp at Wardner, Idaho, included.

Distribution of cases and men tried by inferior courts among the different organizations serving in the department.

Organization.	Trials.	Band.	A.	B.	C.	D.	E.	F.	G.	H.	I.	L.	Total.
Fourth Cavalry *	Cases	13	53	....	6	71	22	45	14	47	....	9	280
	Men	8	30	....	6	39	13	27	11	27	....	5	166
Fifth Artillery †	Cases	.....	2	....	4	....	13	....	....	....	....	21	40
	Men	.....	2	....	3	....	12	....	....	....	....	15	32
Fourth Infantry	Cases	.....	56	48	28	32	33	27	44	15	4	....	287
	Men	.....	29	20	21	21	22	18	23	9	4	....	167
Fourteenth Infantry	Cases	1	57	23	50	24	35	42	24	....	....	....	256
	Men	1	27	15	35	15	23	20	12	....	....	....	149
Hospital Corps	Cases	.....	....	....	....	....	....	....	....	....	....	....	8
	Men	.....	....	....	....	....	....	....	....	....	....	....	6
Total	Cases	.....	....	....	....	....	....	....	....	....	....	....	871
	Men	.....	....	....	....	....	....	....	....	....	....	....	520

* Troop C left department September 23, 1891.

† Batteries E and L left department June 19, 1892, and Batteries A and C entered department June 20, 1892.

NOTE.—Troops, batteries and companies omitted in above table, except the band, Fourth Infantry, are not serving in the department.

Number of times tried by inferior courts.

	Cases.
317 men tried once	317
119 men tried twice	238
45 men tried 3 times	135
21 men tried 4 times	84
12 men tried 5 times	60
5 men tried 6 times	30
1 man tried 7 times	7

520 men tried with a total of 871 cases.

Classification of offenses tried by inferior courts.

Selling or losing public property (laid under article 17)	1
Disrespect to his commanding officer (laid under article 20)	2
Lying out of quarters (laid under article 31)	15
Absence without leave (laid under article 32)	313
Absence from roll-calls, drills, etc. (laid under article 33)	279
Drunk on duty (laid under article 38)	45
Quitting guard without leave (laid under article 40)	1
Disorders charged as "conduct to the prejudice of good order and military discipline" (laid under article 62)	362
Total number of offenses	1,018

APPENDIX C.

DESERTIONS.

Number of desertions during the eleven months ending August 31, 1892	55
Number reported last year	106
Decrease from last year	51

Causes, etc., of desertions, ascertained under the provisions of paragraph 117, Army Regulations, and comparison with same data for three preceding years.

Year.	Character as set forth in reports of boards of survey.						Causes of desertion:—Opinions given in reports of boards of survey.											Nativity.		Cost to United States per month for pay, clothing, rations and transportation (estimated by boards of survey).
	Excellent.	Good.	Fair.	Bad.	Worthless.	Not formed.	Not ascertained.	Dissatisfaction with service.	Debts, unable to pay.	Infatuation for dissolute women.	Drink and worthlessness.	Domestic relations.	Roving disposition.	Theft.	To escape court-martial.	Nostalgia.	Dissatisfaction with pay.	American.	Foreign.	
1891–'92	3	27	11	9	....	5	16	14	6	3	3	2	4	1	3	1	2	39	16	$29.13
1888–'89	4	65	24	6	7	3	74	8	3	2	3	2	....	....	9	....	....	70	39	32.78
1889–'90	7	46	20	8	10	....	36	11	5	2	4	4	....	....	15	....	....	50	41	35.74
1890–'91	6	51	22	13	9	5	38	18	5	3	7	1	6	....	5	1	2	57	49	33.83

Year.	Number tried by courts-martial and number of trials.				Length of service.						Months in which desertions occurred.											
	General courts.	Inferior courts. Tried once.	Inferior courts. Tried more than once.	Not tried.	Less than 1 year.	Between 1 and 2 years.	Between 2 and 3 years.	Between 3 and 4 years.	Between 4 and 5 years.	Over 5 years' service.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1891–'92	...	5	17	33	32	5	7	3	....	8	3	2	9	4	8	8	5	2	5	5	3	1
1888–'89	3	25	19	63	47	26	12	1	1	22	3	1	6	12	18	18	8	5	15	9	6	8
1889–'90	5	20	16	53	49	11	11	3	1	16	...	6	11	13	16	9	7	7	12	5	4	1
1890–'91	4	18	34	54	41	33	20	1	....	11	1	1	5	3	16	10	17	9	12	9	11	12

Distribution of cases of desertion among the different military posts of the department.

Post.	Average strength of garrison.	Number of desertions.	Per cent.
Boisé Barracks	100	7	7.0
Fort Canby	105	3	2.8
Fort Sherman	287	4	1.4
Fort Spokane	173	5	2.9
Fort Townsend	65	3	4.6
Vancouver Barracks	421	14	3.3
Fort Walla Walla	199	19	9.5
Total and average	1,350	55	4.1

Distribution of cases of desertion among the different organizations serving in the department.

Organization.	Band.	A	B	C	D	E	F	G	H	I	L	Total.	Average strength of organization.	Per cent.
Fourth Cavalry	....	6	(*)	....	7	....	4	....	4	(*)	2	23	346	6.6
Fifth Artillery	(*)	....	(*)	2	(*)	....	(*)	(*)	(*)	(*)	1	3	97	3.1
Fourth Infantry	....	2	2	2	....	....	1	1	1	2	....	11	435	2.5
Fourteenth Infantry	....	3	4	....	2	3	4	1	(*)	....	....	17	412	4.1
Non-Commissioned Staff	....	....	....	....	....	....	....	....	....	....	....	....	19	....
Hospital Corps	....	....	....	....	....	....	....	....	....	....	....	1	41	2.4
Total and average	....	....	....	....	....	....	....	....	....	....	....	55	1,350	4.1

*Not serving in the department.

REPORT OF CAPT. E. H. CROWDER, ACTING JUDGE-ADVOCATE, DEPARTMENT OF THE PLATTE.

HEADQUARTERS DEPARTMENT OF THE PLATTE,
JUDGE-ADVOCATE'S OFFICE,
Omaha, Nebr., August 31, 1892.

SIR: Under the requirements of Army Regulations 984, as amended by General Orders No. 19, Adjutant-General's Office, 1891, I have the honor to submit the following report of the business of this office for the period commencing September 30, 1891, and ending August 31, 1892.

During the period named 394 sets of charges have been received; of which number 290 were tried by general court-martial; 6 recommended for trial in other departments; 4 returned for trial by garrison court-martial; 47 returned for trial by summary court; 13 restored to duty without trial; 4 discharged before trial; 3 withdrawn; 2 surrendered to civil authorities; 4 deserted; 18 awaiting trial, and 3 pending.

The cases tried include—

Commissioned officers	0
Non-commissioned officers	30
Privates, etc	260
Total	290

The offenses tried include violations of the following articles of war: Seventeenth, 14; twentieth, 2; twenty-first, 20; thirty-second, 43; thirty-third, 37; thirty-eighth, 34; thirty-ninth, 9; fortieth, 5; forty-seventh, 50; sixtieth, 5; sixty-second, 171.

The cases tried are apportioned among the different organizations as follows: First Infantry, 1; Second Infantry, 37; Seventh Infantry, 38; Eighth Infantry, 28; Twelfth Infantry, 1; Sixteenth Infantry, 59; Seventeenth Infantry, 34; Twenty-first Infantry, 15; Twenty-second Infantry, 1; First Cavalry, 1; Sixth Cavalry, 46; Seventh Cavalry, 2; Eighth Cavalry, 1; Ninth Cavalry, 19; Tenth Cavalry, 1; General Service, 1; Hospital Corps, 2; unassigned recruits, 3—total, 290.

These records of trials have all been examined in this office, the decisions and orders of the department commander indorsed thereon, promulgated in orders and forwarded to the office of the Judge-Advocate-General.

INFERIOR COURTS.

During the period named 2,543 records of trials by inferior courts (garrison and summary) have been received, revised and filed in this office, of which 2,504 were by summary and 39 by garrison court.

These trials include violations of the following articles of war: Seventeenth, 4; twentieth, 2; twenty-first, 3; thirty-first, 7; thirty-second, 624; thirty-third, 926; thirty-fifth, 1; thirty-eighth, 146; fortieth, 4; sixty-second, 1,056.

These cases are apportioned among the different organizations as follows: Sixth Cavalry, 327; Ninth Cavalry, 371; Second Infantry, 315; Seventh Infantry, 303; Eighth Infantry, 316; Sixteenth Infantry, 349; Seventeenth Infantry, 287; Twenty-first Infantry, 250; Hospital Corps, 23; Post N. C. S., 1; military convict, 1—total, 2,543.

The number of different men tried by inferior courts during the period named is 1,340, and the number of acquittals, 73. The sentences in 14 cases were set aside as illegal; in 8 cases the proceedings were set aside for want of jurisdiction, and in 2 cases sentences were disapproved by the post commander.

SUMMARY COURTS.

Two thousand five hundred and four records of trials by summary court have been received, revised, and filed in this office.

The following table exhibits the number of cases tried by summary court at the several posts in the department:

Fort Douglas, Utah	346	Fort Sidney, Nebr	138
Fort DuChesne, Utah	57	Fort Washakie, Wyo	46
Fort Logan, Colo	285	Camp Pilot Butte, Wyo	19
Fort McKinney, Wyo	234	Camp Bettens, Wyo	93
Fort Niobrara, Nebr	223	Camp Elkins, Wyo	37
Fort Omaha, Nebr	305	Bellevue Rifle Range, Nebr	9
Fort Randall, S. D	80		
Fort Robinson, Nebr	348	Total	2,504
Fort D. A. Russell, Wyo	284		

The above aggregate of cases is apportioned among the different organizations in the department as follows: Sixth Cavalry, 320; Second Infantry, 313; Eighth Infantry, 309; Seventeenth Infantry, 273; Ninth Cavalry, 370; Seventh Infantry, 301; Sixteenth Infantry, 347; Twenty-first Infantry, 247; Post N. C. S., 1; Hospital Corps, 23—total, 2,504.

The offenses tried by summary courts include violations of the following articles of war: Seventeenth, 4; twentieth, 2; twenty-first, 2; thirty-first, 7; thirty-second, 621; thirty-third, 920; thirty-fifth, 1; thirty-eighth, 146; fortieth, 4; sixty-second, 1,026.

In 14 cases brought before summary courts the accused objected to trial thereby and requested trial by court-martial.

There has been an increase in the percentage of trials by both general and inferior courts-martial over that of last year. This is probably due to the fact that a larger number of recruits than usual have entered the service during the past year to replace old soldiers discharged under existing orders based on the act of Congress approved June 16, 1890. The right to discharge at the end of three years' service, given in this act, is limited to soldiers whose service has been faithful. Under it there has been a heavy loss to the Army of its best enlisted men, while men whose service has not been faithful have been held for the full term of enlistment. This element, together with the recruits enlisted to supply the places of the men discharged, as aforesaid, has made numerous trials by courts-martial inevitable.

Reports from post commanders serving in this department as to changes necessary in General Orders, No. 21, Adjutant-General's Office, 1891, have been received during the past month. As a rule these reports are most favorable to the general provisions of that order, but a few changes in the code of maximum punishments have been suggested, as follows: (1) In subdivisions *a* and *b*, paragraph 1 of said order, it is recommended that the period of confinement and forfeiture be doubled, and in subdivision *c*, same paragraph, recommended that the period of confinement be increased by six months. (2) In subdivisions *a*, *b*, and *c*, paragraph 2 of said order, recommended that the period of confinement be increased six months. (3) For offenses specified under the thirty-eighth article of war, recommended that forfeitures be doubled, except in the case of offense of drunkenness on guard. I concur as to the necessity of these amendments, believing that under existing orders the crime of desertion is insufficiently punished, and that with respect to offenses under the thirty-eighth article of war, courts-martial should have a wider discretion as to the imposition of disciplinary punishments than they now have.

In my last annual report attention was invited to the failure of the act of Congress establishing the summary court to definitely fix the jurisdiction of this court. The use of the phrase "offenses now cognizable by a garrison or regimental court-martial" in this act seems to be unfortunate. Some officers have construed the phrase as including all offenses within the legal jurisdiction of garrison and regimental courts. By others it has been held to include only those offenses which these courts could adequately punish. This matter should be set at rest, either by authoritative decision or by amendment of the law.

Further reference was made in that report to the effect of the summary court act upon the jurisdiction of other courts-martial, and the opinion expressed in general terms that the jurisdiction conferred upon the summary court was exclusive, with the exceptions named in the act itself, not only of the jurisdiction of garrison and regimental courts, but also of the jurisdiction of the general court as well. The contrary seems to have been inferentially held in Circular 9, Adjutant-General's Office, 1891, although the matter does not appear to have been made the subject of explicit ruling.

The peculiar phraseology of the summary court act, by which it rather describes a certain class of offenses and provides a tribunal for their trial, than defines and limits the jurisdiction of existing courts, would seem to indicate that Congress intended to transfer *in toto* the class of offenses named to the new tribunal. The act does not purport to affect directly the jurisdiction of any existing court, but provides in mandatory language for the trial of a certain class of offenses by a new court, and it seems to me that the same inferential reasoning which would remove these offenses from the jurisdiction of the garrison and regimental courts would apply as well to the general court in respect to offenses of which it is concurrently cognizable. In view of the obscurity of the provisions of the summary court act in the respects indicated, and further in view of the failure of the said act to definitely establish the power of the summary court to punish, I am of the opinion that amendment is desirable.

In the event legislation on this general subject is sought, I desire to renew my recommendation of last year, that the jurisdiction of garrison and regimental courts be revived and extended, so as to enable these courts to impose punishment to the extent of six months' confinement at hard labor and forfeiture of pay for the same period. I can see no reason why these courts can not, under the guidance of existing orders, be trusted to impose punishment to the extent suggested without prejudice in anyway to the rights of an accused. The post commanders in this department are practically unanimous in recommending this extension of jurisdiction.

The classification of military offenses, with prescribed limits of punishment, incorporated in General Orders, 21, Adjutant-General's Office, 1891, has served a most useful purpose in promoting uniformity and equality of punishment for offenses involving sustantially the same state of facts. Disparity as to punishment, so common under the old practice, has ceased with respect to the offenses classified, and to a great extent as to other offenses, the general intent of the aforesaid General Orders, No. 21, as to punishment, being usually followed by courts-martial in awarding sentences, and always by the reviewing authority in the exercise of the power of mitigation.

I acknowledge with much pleasure the receipt of numerous important additions to the office library during the past year.

Very respectfully, your obedient servant,

E. H. CROWDER,
Captain and Acting Judge-Advocate, U. S. Army.

The JUDGE-ADVOCATE-GENERAL, U. S. Army,
Washington, D. C.

Report of Capt. Edgar S. Dudley, Acting Judge-Advocate, Department of Arizona.

HEADQUARTERS DEPARTMENT OF ARIZONA,
OFFICE OF THE JUDGE-ADVOCATE,
Los Angeles, Cal., August 31, 1892.

SIR: In compliance with paragraph 984, Army Regulations, and in conformity with instructions from your office of July 26, 1892, I have the honor to submit the following report of the business of this office for the eleven months ending this date.

COURTS-MARTIAL.

Officers.

Capt. Thomas C. Lebo, Tenth Cavalry; tried for "Conduct to the prejudice of good order and military discipline." Trial resulted in an acquittal, and the proceedings were promulgated in General Court-Martial Orders, No. 23, series 1891, these headquarters.

Enlisted men.

There were 160 enlisted men tried by general courts martial during this period, from the different organizations serving in this department, and including deserters, etc., from other organizations, as follows:

Hospital Corps	2	Indian scout	1
First Cavalry	12		156
Second Cavalry	27		
Tenth Cavalry	24	Deserter from Sixth Cavaly	1
Ninth Infantry	7	Deserter from Fifth Artillery	1
Tenth Infantry	28	Deserter from Eighteenth Infantry	1
Eleventh Infantry	17	Convalescent, First Artillery	1
Twenty fourth Infantry	38		160

The number of enlisted men tried by general courts-martial stationed at the different posts in the department is shown by the following schedule:

Fort Apache	11	San Diego Barracks	9
Fort Bayard	31	Fort Stanton	6
Fort Bowie	5	Whipple Barracks	8
Fort Grant	27	Fort Wingate	24
Fort Huachuca	23		
Fort Marcy	12	Total	160
San Carlos	4		

The following schedule exhibits the nature of the offenses for which enlisted men were tried by general courts martial: 2 were tried for violation of the seventeenth Article of War; 6 for violation of the twentieth Article of War; 21 for violation of the twenty-first Article of War; 2 for violation of the thirty-first Article of War; 27 for violation of the thirty-second Article of War; 18 for violation of the thirty-third Article of War; 15 for violation of the thirty-eighth Article of War; 11 for violation of the thirty-ninth Article of War; 7 for violation of the fortieth Article of War; 16 for violation of the forty-seventh Article of War; 8 for violation of the sixtieth Article of War; 98 for violation of the sixty-second Article of War. Some being charged with violation of two or more Articles of War on the same trial.

Offenses.

Absence without leave	27	Disorderly conduct	9
Absent from duty and calls	18	False statements	10
Assault	9	Fighting	1
Assault with weapon	9	Failing to salute	1
Abusing animals	1	Gambling	2
Allowing prisoner to escape	1	Giving liquor to prisoners	1
Attempting to assist prisoner to escape	1	Leaving post while sentinel	8
Attempting to escape from sentinel	1	Lying out of quarters	2
Breaking arrest	2	Misappropriating public property	8
Breaking pledge	1	Neglect of duty	9
Committing nuisance	1	Permitting another to do his guard duty	1
Desertion	16	Quitting guard	7
Disobedience of orders (twenty-first Article of War)	21	Refusing to obey non-commissioned officer	22
Disobedience of post or company orders (sixty-second Article of War)	5	Resisting arrest	8
Doing another's guard duty without authority	1	Sleeping on post	4
Drunk	10	Selling arms, clothing, etc	2
Drunk and disorderly	11	Straggling on the march	1
Drunk on duty	15	Theft	10
Disrespect to sentinel	3	Threatening to kill	3
Disrespectful and insubordinate (twentieth Article of War)	6	Using abusive, obscene, or threatening language	17
Disrespectful and insubordinate (sixty-second Article of War)	16	Using Government horses without authority	3
		Writing direct to Secretary of War	1

Of the whole number of trials by general courts-martial 13 resulted in acquittal.

Twenty-one men were dishonorably discharged through citation of previous convictions under paragraph 3, General Orders No. 21, series 1891, Adjutant-General's Office.

INFERIOR COURTS.

Trials by inferior courts-martial number 1,677 during the eleven months, and are divided among the several posts of the department as follows:

Posts.	Number of trials by—		Total.
	Summary court.	Garrison court.	
Fort Apache	51		51
Fort Bayard	355	26	381
Fort Bowie	81		81
Fort Grant	257	4	261
Fort Huachuca	167		167
Fort Marcy	141	1	142
Fort Stanton	88		88
San Carlos	53	10	63
San Diego Barracks	66		66
Whipple Barracks	113		113
Fort Wingate	264		264
Total	1,636	41	1,677

In 19 cases objection was made to trial by summary court.

The following schedule exhibits the nature of the offenses for which enlisted men were tried by inferior courts:

For violation of the—	
Twentieth Article of War	1
Twenty-first Article of War	5
Thirty-first Article of War	37
Thirty-second Article of War	260
Thirty-third Article of War	465
Thirty-sixth Article of War	2
Thirty-eighth Article of War	40
Fortieth Article of War	7
Sixty-second Article of War	624
Number of acquittals by summary courts	60
Number of acquittals by garrison courts-martial	11
Total	71
Number of *different* men tried	973
Average enlisted strength	2,501
Per cent. of enlisted men tried by inferior courts	38.90

DESERTIONS.

There have been 50 desertions from the different organizations serving in this department during the past eleven months, as follows:

Tenth Infantry	12
Eleventh Infantry	10
Twenty-fourth Infantry	8
First Cavalry	8
Second Cavalry	11
Tenth Cavalry	1
Total	50
Average enlisted strength	2,501
Per cent. of desertions	1.99

REMARKS.

GENERAL COURTS-MARTIAL.

The larger number of trials by general courts have been on charges laid under the twenty-first, thirty-second, thirty-third, thirty-eighth, thirty-ninth, forty-seventh, and sixty-second Articles of War. The majority of the offenses committed have been, undoubtedly, due to those causes incident to the station of troops on the frontier, at

posts outside of which there are no amusements except such as may be found in frontier towns, with all their temptations of saloons, gambling places, etc.; but there may also be a tendency to restlessness under discipline, and in cases of trials by minor courts it is noticed that there has been an inclination to disregard the legitimate authority of non-commissioned officers.

It is possible that some persons have conceived the idea that the measures which have recently been taken to lighten the duties and improve the condition of the enlisted men mean a relaxation of the firmness of discipline. If so, they have mistaken the object of these laws, orders, and regulations, made for their benefit, and must learn, through the penalties for the acts due to their misconception, that the discipline of the soldier and the maintenance of an army demand as strict an obedience as ever to the orders and decisions of their superior officers; that an order, not on its face and at the first glance plainly illegal, must be obeyed unhesitatingly and without cavil or question. The law still insists that obedience is the first duty of a soldier. There is a remedy for every wrong, and the illegal act of a superior makes him amenable to the law; and where an inferior in rank may think himself wronged he may complain; but his first duty is to obey and afterwards to seek legal redress for the wrong.

The soldier must learn that the increased liberties given him are not license to do any act which tends to weaken discipline nor do they in any way reduce the authority of his superiors over him.

The regiment having the largest number tried by general court-martial is the Twenty-fourth Infantry. In two companies of that regiment a large proportion of the offenses occurred during and after a change of station from San Carlos to Fort Huachuca, A. T.; charges having been preferred in six cases for offenses committed while *en route* and in six cases since their arrival at their new station, making twelve cases since May 19 last, as against two for all the previous part of the year.

San Carlos being on an Indian Reservation where there is no post exchange, and no liquor to be had, it is probable that being placed within reach of an unlimited supply from neighboring saloons and at a post where they can purchase beer from the exchange, these men have gone to an excess, to which they were the more liable on account of their former restraint.

There seems to be a decided opinion upon the part of some officers, who have had the opportunity for observation, that the general character of the colored soldier for sobriety is deteriorating, and this fact, together with experience with Indian companies at posts where they are stationed, tends to bring in question the wisdom of selling even beer at a post exchange; or whether the sale of it, and the quality of the beer, as to the percentage of alcohol it contains, and the amounts to be sold to men, should not be more strictly regulated.

SUMMARY COURTS AND GARRISON COURTS-MARTIAL.

There have been 1,677 trials by minor courts, the larger number of offenses being charged under the thirty-second, thirty-third and sixty-second Articles of War. The number of objections to trial by summary court has been 19.

The working of the summary court seems satisfactory, though there have been some misconceptions of the law regarding it. There is some question as to whether the ease with which offenders may be brought before it has not had the effect of relaxing the authority for discipline of the individual superior by turning it over to the summary court. In other words, does the individual officer or non-commissioned officer rely as much as formerly upon his personal authority to enforce his orders, or does he depend more upon the power of the court to compel discipline?

The transcripts of summary court record required to be made to Department Headquarters are, from the large posts, quite voluminous and involve a large amount of writing. Unless it is intended that these are to be held to supply information in case of the loss of the record at any post, it would seem that it might be replaced by an extract giving the substance of the specifications in terms as nearly as possible corresponding to those used in General Orders No. 21, Adjutant-General's Office, 1891, affixing limits of punishment, and the names of witnesses be omitted.

Congress by recent act, having given commanding officers power to mitigate or remit sentence adjudged by these courts, has added another check upon the possibility of error or injustice to any man tried by it.

LIMITS OF PUNISHMENT.

The "limits of punishment" prescribed by the President in General Orders, No. 21, Headquarters of the Army, Adjutant-General's Office, series 1891, have been in operation a sufficient length of time to give evidence of value. The operations of this order have, in my opinion, been excellent in establishing a substantial uniformity in the punishment of similar offenses throughout the Army.

Section 3, permitting dishonorable discharge with forfeiture of all pay and allowances upon proof of five or more previous convictions, not only affords a warning to continual offenders, but permits company commanders to rid themselves of men who will, notwithstanding it, fail to prevent their discharge under it by the faithful and honest performance of their duty. There were twenty-one men so discharged.

It has been suggested that the present scale of punishment is entirely too light. I think, however, that by taking into consideration the previous convictions and adjudging wisely the punishment, using the substitutions provided for in section 6 of the order, the limit is sufficiently large. At least the present scale of punishment should have further trial.

A few more offenses with penalty limit might well be added to the list, to be selected from those most frequently committed, as shown by the reports from the different military departments.

The alternative punishment of "dishonorable discharge with forfeiture of all pay and allowances," which may be awarded upon proof of five or more previous convictions under section 3 of the order, might also be modified to permit courts to sentence to dishonorable discharge alone, or with forfeiture of all or any part of pay and allowances. In some cases, at stations remote from places where men can find employment, or when circumstances seem to justify it, courts might be permitted more latitude in their sentences in this particular.

That part of the order authorizing the "detention of pay" is believed to be particularly valuable and deserves to be more freely used, as offering a continual inducement to good behavior and faithful service on account of the certainty of men obtaining their money in full when honorably discharged.

DESERTIONS.

There have been 50 desertions within the past eleven months, being 1.99 per cent of the average enlisted strength during this period. Of this number 11 have been apprehended and 10 tried, one being restored to duty without trial.

The causes of these desertions are difficult to ascertain, the men themselves generally leaving nothing behind them to justify a finding as to the reason for their act, except from inference from their past record.

With the recent liberal laws and orders affording an easy means of obtaining honorable discharge by men of faithful service, there is no reason why any man of good character and habits should think of deserting. It is believed that the majority of those who have deserted belong to a worthless class of men of roving disposition and affected with the tramp mania with which the country has been unfortunately afflicted, or else men of bad character and habits, endeavoring to avoid the consequences of their own acts.

To these there may be exceptions of men transferred from other departments to this one becoming homesick or affected by the entire change to different climate and frontier duty. Such men would most likely be found among those recruited in the Eastern States under the regimental recruiting system. Of the ten desertions in the Eleventh Infantry, six were recruits from small towns, under regimental recruiting system.

Desertions are sometimes caused also by ignorant and unsuitable non-commissioned officers; and the efforts made to raise their standard by securing for them higher pay and greater privileges are in the line of remedy for the dissatisfaction which, in some instances, produces desertion.

No complaint has been reported in any proceedings of a board of survey on causes of desertion, of ill treatment, or lack of food. Certainly there can be no occasion for complaint in this latter particular with the present ration allowance, supplemented as it is with the large dividends made at most posts by the exchange. The American soldier to-day lives in luxury when compared with the majority of laboring men of this or any other country.

GAMBLING.

One of the most serious vices afflicting the Army, especially at frontier posts, is that of gambling. Some cases of desertion in this department have been directly traced to it as a cause, and in the cases of two men, convicted of larceny, the evidence showed that they had been led to commit the crime through passion for gambling, and had been led on by civilians who induced them to steal that they might benefit by it and the soldiers obtain money to continue their participation in a gambling game.

Some steps have been taken to suppress the vice, and it is prohibited in barracks by post or company orders at most, if not at all, posts in this department. It is also prohibited in the post exchange by paragraph 330, Army regulations; but it is still carried on secretly in the posts or on reservations.

Being in itself a statutory offense, not punishable under the common law unless, accompanied by some disorder or fraud or so conducted as to become a nuisance, it has been held not, *per se*, to constitute a military offense unless "indulged in to such an extent or in such a manner as to give it the character of a disorder to the prejudice of good order and military discipline."

This vice unquestionably prejudices good order and military discipline indirectly through its effects, creating between privates themselves, and between them and their non-commissioned officers who indulge in it, relations which lead to laxity of discipline, indebtedness, quarrels, dissatisfaction, and finally to desertion.

I therefore renew the recommendation often made heretofore by others, that gambling by soldiers at posts or stations of troops in the service of the United States be prohibited by law. It is already made punishable in the Navy by article 8, section 1624, Revised Statutes.

AMENDMENTS TO THE ARTICLES OF WAR.

The recent amendments to the Articles of War by the present Congress constitute a step of progress beneficial to the Army in many ways. The exclusion of the judge-advocate during the closed session of courts-martial is in the interest of impartial justice, and the power given judge-advocates of departments and of courts-martial to administer oaths for the administration of military justice, and for other purposes of military administration, will not only be a matter of economy to the Government, but will quicken and expedite the transaction of military business, particularly in the supply department and at posts.

It is greatly to be regretted that the House of Representatives in its wisdom saw fit to reject the amendment to the eighty-sixth article of war, as passed by the Senate. It seems strange that Congress, after constituting a court by its own authority, should then make it an exception to all other courts by depriving it of the right to carry out the object of its existence, and compel any witness called before it, civil as well as military, to testify or to punish for contempt of its authority and dignity. Certainly both right and justice still demand that this power be given these courts.

CLERK.

The clerks for judge-advocates of departments is furnished from among the number of those under the charge and control of the Assistant Adjutant-General. The character of the duties these clerks perform is such as to require a special acquaintance with forms of procedure of military courts and a knowledge of military law, orders, and decisions; they should therefore be more than mere copyists, and be required to study the law, keep well informed as to decisions, and be able to discover any oversight or error in the proceedings.

It would add greatly to the efficiency of the work if these clerks could be solely under the control of the Judge-Advocate General's Department, and they should receive as much compensation as second or third class clerks of the General Service.

BOOKS.

The supply of professional books furnished this office the past year has been greatly appreciated, including, as it does, Opinions of the Attorney-General, volumes 13 to 19 inclusive; United States Supreme Court Reports, 35 volumes, with Digest; 18 volumes of the American and English Encyclopædia of Law; Wharton's International Digest, and other valuable additions.

The judge-advocates of departments have much to be thankful for, in this respect, within the past two years.

Respectfully submitted.

EDGAR S. DUDLEY,
Captain, U. S. Army, Acting Judge-Advocate.

The JUDGE-ADVOCATE-GENERAL, U. S. ARMY.
Washington, D. C.

Report of Capt. F. J. Kernan, Acting Judge-Advocate, Department of Dakota.

HEADQUARTERS DEPARTMENT OF DAKOTA,
JUDGE-ADVOCATE'S OFFICE,
St. Paul, Minn., September 15, 1892.

SIR: I have the honor to submit the following report of the business of this office for the period commencing October 1, 1891, and ending August 31, 1892.

There were no commissioned officers tried.

The following table shows the number of general, garrison, and summary court-martial cases tried at the several posts in the department, with the percentage of trials:

Posts.	Average enlisted strength of garrison.	Number and percentage of trials.					
		General cases tried.	Percentage of general cases.	Garrison cases tried.	Summary cases tried.	Total inferior cases tried.	Percentage of inferior cases.
Fort Assiniboine, Mont	458	37	8.08	4	206	210	45.85
Fort Bennett, S. Dak	59	.....	.....	.....	.....	.....	.....
Fort Buford, N. Dak	219	13	5.93	7	99	106	48.40
Fort Custer, Mont	413	13	3.12	2	212	214	51.81
Fort Keogh, Mont	447	35	7.83	1	448	449	100.45
Fort Meade, S. Dak	417	35	8.39	12	264	276	66.19
Fort Missoula, Mont	193	22	11.40	1	109	110	56.99
Fort Pembina, N. Dak	29	.....	.....	.....	5	5	17.24
Fort Snelling, Minn	438	24	5.48	3	318	321	73.29
Fort Sully, S. Dak	163	24	14.72	.....	148	148	90.80
Fort Yates, N. Dak	274	20	7.30	2	118	120	43.79
Fort Yellowstone, Wyo	63	11	17.46	.....	65	65	103.17
Fort Camp Poplar River, Mont	95	5	5.26	1	25	26	27.37
Total	3 268	239	7.31	33	2,017	2,050	62.73
Convictions	.....	221	.....	27	1,964	1,991	.....
Acquittals	.....	18	.....	6	53	59	.....

There were 1,252 different enlisted men tried by inferior courts-martial.
The different offenses tried by general court-martial were as follows:

Cases tried.	Article of war violated.	Nature of offense.
20	Seventeenth	Selling, or through neglect, losing arms, etc.
6	Twentieth	Disrespect to commanding officer.
20	Twenty-first	Disobeying lawful command of superior officer.
41	Thirty-second	Absence without leave.
19	Thirty-third	Failing to report to place for roll call, etc.
19	Thirty-eighth	Drunkenness on duty.
10	Thirty-ninth	Sleeping upon post.
5	Fortieth	Quitting guard or party.
55	Forty-seventh	Desertion.
1	Fifty-first	Advising to desert.
8	Sixtieth	Theft, in violation of the sixtieth article of war.
13	Sixty-second	Theft, in violation of the sixty-second article of war.
141	Sixty-second	Conduct to the prejudice of good order and military discipline.

The total of cases tried is distributed among organizations as follows:

Regiment or corps.	General.	Inferior trials.	
		Garrison.	Summary.
Hospital Corps	3	.....	27
Ordnance	1	.....	.....
General Service Recruits	1	.....	.....
First Artillery	1	.....	.....
First Cavalry	24	.....	175
Third Cavalry	.....	.....	17
Fourth Cavalry	1	.....	.....
Sixth Cavalry	8	.....	66
Eighth Cavalry	40	13	287
Ninth Cavalry	1	.....	.....
Tenth Cavalry	6	4	122
Third Infantry	21	3	335
Sixth Infantry	1	.....	.....
Twelfth Infantry	41	1	204
Sixteenth Infantry	1	.....	.....
Seventeenth Infantry	1	.....	.....
Twentieth Infantry	28	1	177
Twenty-second Infantry	31	1	348
Twenty-fifth Infantry	29	10	259
Total	239	33	2,017

The following table affords comparisons as to average enlisted strength of the department, and number and percentage of trials for the years stated:

Years.	Average enlisted strength.	Trials by courts-martial.		Percentage of trials.	
		General.	Inferior.	General.	Inferior.
1890	3,962	211	1,305	5.32	32.93
1891 (fiscal year)	3,492	204	1,278	5.84	36.60
1892 (11 months)	3,268	239	2,050	7.31	62.73

The foregoing statistics exhibit a large increase in the number of trials by inferior courts-martial as compared with former years, an increase due to the ease and promptness with which the summary court disposes of business.

The records show a tendency to bring the more trifling offenses to trial, as well as the graver ones, so that this court is now the chief instrumentality through which discipline is maintained. Its great importance is therefore manifest. It needs no argument to show that it should be composed of an officer competent by temperament, character, intellectual gifts and acquirements to discharge its duties to the best advantage. In my opinion the composition of this court is the greatest defect in the law creating it, and the greatest bar to the complete success of the court in practice. No one will contend that all men are equally well fitted to weigh and sift evidence, to decide upon guilt or innocence, to meet out suitable punishment; in short, to discharge the important duties of jury and judge. Among a number of officers there would always be much room for choice in selecting the best qualified for summary court duty.

There is nothing to prevent the second in command from being the least competent of all those available at a post. Under the law, however, he must compose the court. Moreover, it is very desirable that the summary court officer should be changed as seldom as possible; but, as the officer is now designated, change is doubly likely to occur. If anything happens to the post commander, the second in rank succeeds to that office and a change in the court follows. Also, if the second in rank is directly incapacitated (as by sickness, short leave, etc.), a change in the court again results. Every post in this department is connected by telegraph with these headquarters. The same is generally true throughout the Army. The law would be much improved, I think, by vesting the power to appoint the summary court in the department commander. He could select carefully the man for the office. If the selection proved unwise he could change it. Ultimately the most competent would be found, and being found, he would be kept at the duty more continuously. Discipline would gain much by the more intelligent, careful, and uniform administration of justice and the imposition of illegal sentences (now by no means uncommon) would be a thing of the past.

The prompt administration of justice through courts-martial is often prevented by carelessness in the preparation of the record, whereby a return of the proceedings for correction is made necessary. This works an obvious injustice to the prisoner and increases needlessly the labor of all concerned with the trial. A remedy might be found by embodying in the regulations a requirement that the whole proceedings should be read over in the presence of the court and that the record should show affirmatively that such action had been taken.

The chief objects of General Orders 21, Adjutant-General's Office, 1891, would be more fully attained if that order were now amended. For example, two of the offenses most frequently committed by soldiers are breach of arrest and absence from the 11 p. m. inspection of barracks. These offenses are variously punished at present, but from their nature it does not appear that they require any great diversity of punishment. These are merely suggested by way of example. Doubtless other additions to that code might well be made; and in the light of experience perhaps some modifications of the existing provisions of the order could be advantageously effected.

The recommendation made by Capt. Crowder, Acting Judge-Advocate, Department of the Platte, in his last annual report relative to extending the punishing power of garrison and regimental courts-martial, appears to me sound and timely, and to contemplate a change in the right direction. Not only would it expedite business by avoiding the delay inseparable from the present system of forwarding charges to department headquarters for action there, but it would save time and expense in other ways. A court composed of three can always work faster than one of nine or ten members, both because discussions are shorter and objections fewer, and because such a court can frequently meet when the larger court can not do so on account of

the conflicting duties of some of its members. Again, at posts composed of one, two, or even three companies a sufficent number of eligible officers to compose a general court can not be had. Hence delay and expense in assembling members from other posts. If the proposed increase of punishing power to award a term of six months' confinement at hard labor with forfeiture of pay for the same period were conferred on the courts named, there is scarcely a post in the Army where the delays and expense above described could not be avoided. And it is impossible to believe that substantial justice would suffer any by the change. If the proposed increase of punishing power be deemed too great, perhaps a lesser increase, say to confinement at hard labor for four months and a forfeiture of $40, might obviate the objection.

In this connection it seems clear to me that article 94 might well be stricken from the code. The reasons commonly assigned for the limitations on the hours of session contained in that article appear wholly insufficient when weighed against the serious inconveniences to which the limitations give rise. These inconveniences especially appear in the case of a general court. At most posts a majority of the officers will be on the court. They have other and conflicting and by no means unimportant duties to perform—drills, boards, target practice, lyceum meetings, and many other routine matters requiring the personal presence of the officer. The limits set in article 94—8 a. m. to 3 p. m.—embrace precisely those hours during which these other duties require attention. Hence we find the sittings of courts short, and simple and unimportant trials protracted day after day. Another effect is to introduce a grave, perhaps fatal, irregularity into the proceedings when a court through inadvertence, as sometimes happens, sits beyond 3 p. m. The existence of this arbitrary rule may and does at times thus defeat justice by compelling the reviewing officer to disapprove the proceedings. The change suggested would make for a speedy trial, something much to be desired from every point of view.

It is greatly to be regretted that the recent effort to provide courts-martial with the power of compelling civilian witnesses to testify before them failed. Its propriety and necessity are as obvious as the propriety and necessity of the court-martial itself. In my opinion, there is no power or discretion at present vested in courts-martial which is less likely to be abused than the proposed one, if it should be conferred.

The many and valuable additions made to the library of this office during the past year is most gratifying. If the same liberal course can be pursued in the future the library will answer its purpose completely and be a valuable adjunct to department headquarters.

I append hereto a printed report containing the statistics of desertion in this department for the last fiscal year. From this it will be seen that out of a total of 202 desertions, but 28 were apprehended. This is entirely too few. The present law authorizing the arrest of deserters and the regulation based thereon restrict the payment of any reward consequent upon their apprehension to specified parties who shall have arrested and delivered the offender. This does not seem to be enough. There ought to be a reward offered to any civilian who furnishes the information upon which the military authorities actually make the arrest of a deserter. There is no sufficient inducement now to the ordinary civilian, who has knowedge of the whereabouts of one, to impart the information to the military. The reward is now conditional upon the actual arrest and delivery, whereas the essential thing is to know where the deserter is to be had. Knowing this the military can themselves effect the arrest.

With the exceptions indicated in the foregoing remarks, the administration of justice through military courts in this department appears to be carried on with reasonable promptness and uniformity, and with satisfactory results.

Very respectfully, your obedient servant,

F. J. KERNAN,
Captain and Acting Judge-Advocate.

The ACTING JUDGE-ADVOCATE-GENERAL, U. S. ARMY,
Washington, D. C.

APPENDIX.

HEADQUARTERS DEPARTMENT OF DAKOTA, JUDGE-ADVOCATE'S OFFICE,
St. Paul, Minn., August 23, 1892.

SIR: I have the honor to submit for the information of the department commander, in accordance with paragraph 118, Army Regulations, as amended by General Orders No. 145, Adjutant-General's Office, series of 1890, the following report of desertions within this department for the preceding year:

American born	136
Foreign born	66
Total	202

Of these, 91 were enlisted at St. Paul and Minneapolis; 56 came from depots; 16 enlisted at posts; and 39 were enlisted by regimental recruiting parties.

Causes of desertion, taken from separate special reports rendered in each case, viz:

Aggrieved over result of trial by court-martial	4
Chronic deserters, "repeaters"	16
Debts	8
Enlisted to get transportation west	15
Work—complained of too much fatigue	12
Work—too much work and not enough pay	9
Discouraged on account of stoppage of pay to settle for overdrawn clothing	7
Fear of punishment for crime	5
Fear of pending surgical operation	1
Dissatisfied with climate	1
Nostalgia	4
To get rid of his wife	1
To join wife	4
Failure to secure detail on extra duty	2
Influenced by relatives	9
Dislike of the service	11
Unknown causes	93
Total	202

One had served more than 18 and less than 19 years, 1 more than 11 and less than 12 years, 2 more than 10 and less than 11 years, 2 more than 7 and less than 8 years, 1 more than 6 and less than 7 years, 2 more than 5 and less than 6 years, 3 more than 4 and less than 5 years, 1 more than 3 and less than 4 years, 12 more than 2 and less than 3 years, 30 more than 1 and less than 2 years, 49 more than 6 months and less than 1 year, 98 had served less than 6 months.

The following table gives the posts and organizations from which the men deserted:

Posts.	Number.	Regiment or corps.	Number.
Fort Abraham Lincoln, N. Dak	3	Hospital Corps	1
Fort Assiniboine, Mont	49	First Cavalry	10
Fort Buford, N. Dak	8	Eighth Cavalry	33
Fort Keogh, Mont	40	Tenth Cavalry	1
Fort Meade, S. Dak	24	Third Infantry	48
Fort Missoula, Mont	8	Twelfth Infantry	16
Fort Pembina, N. Dak	1	Twentieth Infantry	45
Fort Snelling, Minn	48	Twenty-second Infantry	39
Fort Sully, S. Dak	8	Twenty-fifth Infantry	9
Fort Yates, N. Dak	12		
Camp Poplar River, Mont	1		
Total	202	Total	202

The number of desertions for the year ending June 30, 1891, and the percentage of loss from this cause, with comparison with the present year, are given below:

Year.	Average enlisted strength.	Number of desertions.	Percentage of loss.
1891	3,492	213	6.10
1892	3,409	202	5.93

Of the whole number of deserters, 28 were apprehended.

There were no desertions from Forts Bennett, Custer, Shaw or Yellowstone. Average strength, 695.

Very respectfully, your obedient servant,

F. J. KERNAN,
Captain and Acting Judge-Advocate.

To the ASSISTANT ADJUTANT-GENERAL,
Department of Dakota,
St. Paul, Minn.

REPORT

OF

THE QUARTERMASTER-GENERAL.

QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., October 1, 1892.

SIR: I have the honor to submit the annual report of the Quartermaster's Department for the fiscal year ending June 30, 1892:

By acts of February 24, 1891, and March 3, 1891, there was appropriated for the service of the Quartermaster's Department for the fiscal year 1891-'92, the sum of		$8,406,160.00
During the fiscal year there was deposited to the credit of said appropriations, amounts received from sales to officers, etc., the sum of		441,204.08
Making a total of		8,847,364.08
Of this amount there was remitted to disbursing officers	$7,773,051.06	
There was paid out on account of settlements made at Treasury of claims and accounts	29,831.76	
		7,802,882.82
Leaving a balance available for payment of outstanding obligations incurred, or fulfillment of contracts properly entered into, within the fiscal year		1,044,481.26
On the 1st of July, 1891, there was on hand from regular appropriations for the service of the Quartermaster's Department, pertaining to the fiscal year, ending June 30, 1891, the sum of		849,576.89
And from appropriations pertaining to previous fiscal years, including those for specific and indefinite purposes, the sum of		1,255,258.32
Making a total balance on hand from all appropriations July 1, 1891, of		2,104,835.21
For specific purposes there was appropriated during the fiscal year ending June 30, 1892		973,500.00
During the year there was deposited and transferred to credit of the appropriations other than those for 1891-'92 (shown above) the sum of		563,739.78
Making a total of		3,642,074.99
Of said amount there was remitted to disbursing officers the sum of	$1,326,682.52	
There was paid out on account of Treasury settlements and transferred the sum of	287,556.55	
There was carried to the surplus fund the sum of	134,666.72	
		1,748,905.79
Leaving a balance of		1,893,169.20

The items of appropriations, remittances, etc., will be found in detail in the accompanying report of the officer in charge of the finance branch.

The reports of the several officers on duty in this office, transmitted herewith, will show in detail the transactions of the Quartermaster's Department for the last fiscal year.

Attention is specially invited to the following:

POST QUARTERMASTER SERGEANTS AND ARMY SERVICE MEN, QUARTERMASTER'S DEPARTMENT.

The 80 post quartermaster sergeants who are serving at military posts and the 117 enlisted men composing the detachment of army service men, Quartermaster's Department, at West Point, N. Y., are reported to have generally performed their respective duties during the past fiscal year in a satisfactory manner.

CLOTHING AND EQUIPAGE SUPPLIES.

The appropriation for the last fiscal year for clothing and equipage for the Army was $1,175,000. There was placed to the credit of this appropriation the sum of $207,897.04, on account of issues of clothing and equipage to the militia, and the sum of $70,680.03 was credited from sales to officers, etc., making a total of $1,453,577.07.

Of this sum there was expended during the fiscal year $1,321,259.55, leaving a balance in the Treasury on June 30, 1892, of $132,317.52, all of which will be required to meet outstanding obligations.

The issues of clothing, equipage, and materials from the general purchasing and manufacturing depots to the Army, were made with promptness and the Department has endeavored to keep the quality of the articles supplied up to the established standards.

The issues to the militia during the fiscal year amounted to the sum of $214,939.04.

The following issues were made during the year which represent a total loss to the clothing appropriation:

For prisoners' clothing, etc., Military Prison, Fort Leavenworth, Kans..	$1,108.06
For prisoners' clothing, Alcatraz Island, Cal	1,599.06
To the militia of the District of Columbia	1,917.39
To the Indian prisoners of war, Mount Vernon Barracks, Ala	5,769.72
Sale of leather cutting at Military Prison, Fort Leavenworth, Kans., proceeds credited to miscellaneous receipts	306.33
Sale of condemned clothing, equipage, and materials, proceeds credited to miscellaneous receipts	14,982.23
Total	25,682.70

BOOTS AND SHOES.

The matter of improving the foot wear for the enlisted men has been receiving the attention of the Department for some time, and much thought and study has been devoted to the subject. Experts and disinterested manufacturers and dealers in leather and shoes have been consulted, and the conclusion has finally been reached that a calfskin upper (skins to weigh from 55 to 60 pounds to the dozen) would be the best adapted to the military service, instead of the heavy wax uppers, in regard to which so much complaint has been made. New and improved lasts of different widths were decided upon, and about 100 pairs made upon these new lasts, and issued for trial to the troops at Fort Leavenworth, Kans., Fort McHenry, Md., and at Washington Barracks, D. C. Reports upon the general character of these shoes have

been received, and they are declared to be the best ever issued to the Army. These improved shoes will be manufactured and supplied to the Army as early as practicable.

TRANSPORTATION.

The Quartermaster's Department, during the past fiscal year, furnished transportation for 442,488 persons; 3,383 animals, and 92,244 tons of material, at a cost of $2,352,249.78.

The cost of the principal movement of troops during the year, exclusive of deductions on account of land-grant and bond-aided railroads, was $192,013.90.

The sum of $12,006.62 was expended for the transportation of troops in connection with summer encampments, practice marches, etc., and $27,696.23 for the transportation of enlisted men to engage in target practice and rifle competition.

There were transported during the year over the bond-aided Pacific Railroads, their branches and leased lines, 8,705 persons, 1,117 animals and 42,249,253 pounds of freight.

Nine steamboats and one sloop, owned by the Quartermaster's Department, have been kept in service at a cost during the year, including repairs, of $96,013.06. Besides, the sum of $9,407.14 was expended for the charter and hire of vessels temporarily used by the Department.

Telegraphing on official military business has continued during the fiscal year without cash outlay, as the Western Union Telegraph Company refused to accept payment of the rates fixed by the Postmaster-General. This office, however, was advised in March, 1892, that an arrangement had been entered into between the accounting officers of the Treasury and the company, whereby the company might receipt for all moneys due it and remaining unpaid for Government telegrams since July 1, 1889, *under protest*, reserving the right to seek further remuneration through the courts or otherwise as deemed best.

The following is a copy of the form of the company's protest, as accepted by the accounting officers of the Treasury:

> The Western Union Telegraph Company protests against the receipt of the amount set forth in the annexed voucher as in full compensation for the services supposed to be embraced in the certificate of (name of officer certifying to correctness of bill), hereto attached, and reserves the right to contest upon all legal grounds the rates at which the amount is stated, as below the actual cost of, and totally inadequate compensation for the services rendered; and reserves the right to collect, by suit or otherwise, such further and additional compensation as it may justly be entitled to receive.
>
> THE WESTERN UNION TELEGRAPH COMPANY,
> By NORVIN GREEN,
> *President.*

The accounts for the telegraphic service performed for the Army and payable by the Quartermaster's Department during the fiscal year 1890 have, under the above arrangement, been submitted by the Western Union Telegraph Company, and directions have been given for their proper settlement by the disbursing officers of the Quartermaster's Department, at rates fixed by the Postmaster-General, a copy of the company's protest to be filed with each voucher upon which payment is made.

The accounts for the fiscal year 1891 and 1892 have not yet been submitted by the company.

Twenty-seven team horses and 71 mules were purchased during the fiscal year at a cost of $16,966.50, and 800 cavalry and artillery horses

at a cost of $103,163.23. The average cost of cavalry horses purchased during the year was $125.75, and of artillery horses $159.90. There were remaining on hand at the close of the fiscal year 5,607 cavalry and artillery horses, 256 team horses, and 3,798 mules.

The ambulance adopted in 1881 having proven too heavy, a new one of improved pattern and of lighter draft has been devised and approved by the Medical Department, and a number of these are now being built.

During the fiscal year the sum of $201,663.53 was expended for roads, walks, and bridges, and $15,700.62 for wharves.

The sum of $403,709.64 was expended during the fiscal year for water, sewerage, plumbing, etc.

REGULAR SUPPLIES.

The sum of $93,563.40 was expended for illuminating supplies; $6,818.40 for veterinary supplies; $55,913.86 for stoves, ranges, and extra parts; $15,934.70 for horse and mule shoes, and horseshoe nails; $14,918.10 for tableware and kitchen utensils; $52,369.75 for wagons, carts, etc.; $5,659.51 on account of post bakeries, schools, and gardens, and $153,986.60, for heating, lighting, etc.

There was manufactured at the Fort Leavenworth Military Prison during the fiscal year furniture for stoves and ranges at a cost of $6,509.32; harness at a cost of $17,255.13, and mess tables, benches, stable brooms, etc., at a cost of $2,634.02.

The value and utility of typewriting machines in the matter of correspondence having been established by their general use, it was thought desirable and in the interest of the service to introduce them for use in the Army, and accordingly 150 of such machines were purchased by this Department, and issued to the military posts for use of quartermasters and adjutants, and so far as this office has been advised they have given general satisfaction.

BARRACKS AND QUARTERS.

The sum of $725,000 was appropriated for barracks and quarters for the fiscal year. Of this amount the sum of $302,298.05 was expended for the construction of barracks, officers' quarters, storehouses, etc., and the remainder was expended for the repair, alteration of buildings, and for rent, etc.

The sum of $73,578.07 was expended during the year for the construction and repair of hospitals, and also the sum of $11,932.48 for the construction and repair of hospital stewards' quarters, and $5,000 for shooting galleries and expenses incident thereto.

In accordance with the act of Congress approved February 24, 1891, providing for an expenditure of not less than $50,000 to begin the repair and reconstruction of Jefferson Barracks, Mo., one double barracks and two double sets of officers' quarters are now in course of construction at that post.

MILITARY POSTS.

Under the act of Congress approved March 3, 1891, the sum of $745,000 was appropriated "for the construction of buildings at and the enlargement of such military posts as in the judgment of the Secretary of War may be necessary," and with the balance of $49,728.34

reported as remaining on hand from previous appropriation, together with the revocation of a former allotment of $26,000 for the construction of officers' quarters at Fort Warren, Mass., and the sum of $10,925 saved from the amount previously authorized for construction at Fort McPherson, Ga., an aggregate of $831,653.34 was available during the fiscal year for the purpose above stated. Of this sum the following apportionment was made:

Fort Sheridan, Ill	$179,375.91	Fort Sam Houston, Tex	$9,000.00
Fort Thomas, Ky	86,334.58	Fort Niobrara, Nebr	1,657.21
Madison Barracks, N. Y	80,300.00	Fort Myer, Va	1,464.50
Fort Wayne, Mich	78,000.00	Fort Yellowstone, Wyo	354.76
Fort Leavenworth, Kans	56,474.00	Fort Warren, Mass	236.38
Fort Logan, Colo	53,492.05	Fort Brady, Mich	36,580.68
Willets Point, N. Y	43,950.00	Fort Bliss, Tex	23,093.92
Fort McPherson, Ga	37,994.50	Balance on hand June 30, 1892	90,820.96
Columbus Barracks, Ohio	21,545.29		
Fort Riley, Kans	20,910.00		
Fort Robinson, Nebr	10,068.60	Total	831,653.34

A number of the buildings authorized at the posts above-named have already been completed, and others are in course of erection or contracted for.

NEW POST OF FORT BRADY, MICH.

At this post the following additional brick buildings have been contracted for: Administration building and storehouse, guardhouse, noncommissioned staff officers' quarters, fuel building, stable, magazine, and hospital, costing the sum of $42,948.68. Of this amount the sum of $6,368 is chargeable to the special appropriation for construction of this post and the remainder to the appropriation for "military posts."

NEW POST OF FORT BLISS, TEX.

At this post contracts have been made for the construction of brick buildings as follows: One double barrack, outbuilding for same, mess hall, four sets of captains' quarters, six sets of lieutenants' quarters, three double sets of noncommissioned staff officers' quarters, guardhouse, subsistence storehouse, hospital, and quartermaster's stable, costing $167,704. Of this amount the sum of $144,610.08 is chargeable to special appropriation for the construction of this post, and the remainder to the appropriation for "military posts."

RESERVATION OF THE PRESIDIO, SAN FRANCISCO, CAL.

The balance of $8,662.89, remaining on hand from the appropriation of $38,000 provided by act of Congress, approved March 2, 1889, has been expended in the macadamizing of Lombard street, purchase of trees, etc.

The contract for furnishing 50,000 trees for this reservation has been successfully accomplished, and the work of tree culture carried on favorably throughout the year.

Out of $10,000, appropriated by act of Congress, approved March 3, 1891, for this reservation, the sum of $8,748,98 was expended during the year for the purchase, planting, and cultivation of trees, building and repairing fences, repairing windmill, etc.

FORT CROOK, NEBR.

At this post contracts have been made for water supply and sewer systems, a pump house and roads. Work upon the plans for other buildings to be erected at this post is in progress.

PLATTSBURG BARRACKS, NEW YORK.

No buildings have been erected at this post during the year, under the act of February 16, 1891, providing the sum of $200,000 for its enlargement, but plans for such are now being prepared.

PURCHASE OF BUILDINGS.

Congress, in the Army appropriation act of February 24, 1891, provided $50,000 "for the purchase, by the Secretary of War, of buildings erected at permanent army posts by private parties under proper authority, and which may be suitable and actually necessary for the army service, and at prices to be fixed by the Secretary of War," and under the authority of this law the Secretary of War has authorized the purchase of buildings at the following posts at the prices stated:

Fort Leavenworth, Kans	$5,595.00	Fort Sherman, Idaho	2,280.00
Fort Riley, Kans	5,000.00	Fort Townsend, Wash	465.00
Fort Supply, Ind. T	1,260.00	Fort Reno, Okla	990.00
Fort Meade, S. Dak	1,364.52	Fort McIntosh, Tex	800.00
Fort Bowie, Ariz	420.00	Fort Washakie, Wyo	300.00
Fort Huachuca, Ariz	3,000.00	Fort Hancock, Tex	400.00
Fort Custer, Mont	5,000.00	Fort Douglas, Utah	150.00
Fort Pembina, N. Dak	1,068.00	Fort McKinney, Wyo	1,980.00
Fort Yates, N. Dak	3,500.00	Balance available June 30, 1892	10,327.48
Angel Island, Cal	2,500.00		
Presidio of San Francisco, Cal.	3,000.00	Tolal	$50,000.00
Fort Canby, Wash	600.00		

RESERVATIONS.

During the fiscal year the following reservations or parts thereof have been turned over to the Interior Department, for disposition under the act of July 5, 1884, or as otherwise provided by law:

Fort Buford, N. Dak. (part).
Fort Abraham Lincoln, N. Dak. (including Sibleys Island).
Fort Assinniboine, Mont. (part).
Fort Cummings, N. Mex.
Fort Lewis, Colo.
Fort Gaston, Cal.
Fort Seldon, N. Mex.
Fort Shaw, Mont.

The reservation of Yerba Buena Island, California, was transferred to the Engineer Department for use as a torpedo station.

NATIONAL CEMETERIES.

During the fiscal year 5,832 headstones were provided to mark the graves of Union soldiers, sailors, and marines buried in national, post, city, and village cemeteries.

Necessary repairs have been made during the year to the lodges, outbuildings, inclosing walls, water supply, drainage, walks, etc., at all of the cemeteries, and the grounds kept in proper order.

Permanent rostrums have been erected and completed during the year in the national cemeteries at Barrancas, Fla.; Camp Nelson, Ky.; Fort McPherson, Nebr.; Grafton, W. Va.; Mobile, Ala., and Shiloh, Tenn.

At the Brownsville, Tex., national cemetery the levee authorized by act of Congress, approved August 30, 1890, for the protection of the country from overflow of the Rio Grande, has been completed at a cost of $3,492.

The purchase of eight acres of additional land for the enlargement of the Hampton, Va., national cemetery, authorized by acts of Congress, approved August 30, 1890, and March 3, 1891, has been made, and contracts entered into for the erection of a brick inclosing wall, with appropriate entrances to be provided with ornamental wrought-iron drive and walk gates, and the grounds prepared for interments.

The custody of the monument at Yorktown, Va., erected by authority of Congress "To commemorate the victory by which the Independence of the United States of America was achieved," having been transferred, by order of the Secretary of War, to the Quartermaster-General of the Army, to be considered as part of the Yorktown, Va., national cemetery; a new picket fence has been erected around the lot in which the monument is located, and the monument and grounds placed in good condition.

The sum of $1,606.43 was expended during the fiscal year for the burial in the Arlington National Cemetery, and in the cemeteries of the District of Columbia, of 39 indigent ex-Union soldiers, sailors, and marines of the late war, who died in the District of Columbia.

Roadways to national cemeteries, authorized by special acts of Congress, have been completed during the year, as follows:

Roadway to the Alexandria, Va., national cemetery, at a cost of	$6,996.16
Roadway to the Culpeper, Va., national cemetery, at a cost of	4,499.76
Roadway to the Fredericksburg, Va., national cemetery, at a cost of	7,988.65
Roadway to the Staunton, Va., national cemetery, at a cost of	10,765.19
Roadway to the Port Hudson, La., national cemetery, at a cost of	13,468.19

In addition to the above, the sum of $7,007.96 was expended during the last fiscal year in necessary repairs to roadways to national cemeteries, which have been constructed by special authority of Congress.

The work of draining and repairing the road to the Hampton, Va., national cemetery, for which an appropriation of $2,000 was made by acts of Congress, approved March 2, 1889, and August 30, 1890, has not yet been commenced. Action is deferred pending the grant of right of way by the legislature of Virginia.

By act of Congress, approved August 30, 1890, an appropriation of $15,000 was made for the purpose of "surveying, locating, and preserving the lines of the battle of the Army of the Potomac, and of the Army of Northern Virginia, at Antietam, and for marking the same, and for locating and marking the positions of each of the forty-three different commands of the regular Army engaged in the battle of Antietam, and for the purchase of sites for tablets for the marking of such positions."

The honorable the Secretary of War, by virtue of authority contained in this law, appointed Col. J. C. Stearns, of Vermont, and Gen. Henry Heth, of Virginia, as agents of the Department, with a view to carrying out its provisions. These agents have reported to this office that the positions of the forty-three commands of the regular Army participating in, or present during that battle, have been temporarily marked with wooden markers to be replaced by stone tablets as soon as a title to the land can be obtained; and that the line of battle and positions occupied by the Army of Northern Virginia, on the morning of September 17, 1862, have been very definitely settled, though they state that it will be impossible to locate many of the brigades of this army by

name, by reason of the absence of reports of officers commanding these organizations. They further state that they have succeeded in accumulating a large amount of information which will enable them to complete a series of maps illustrating the great battle of Antietam. The sum expended from this appropriation to June 30, 1892, was $5,502.53.

By act of Congress, approved August 5, 1892, a further appropriation of $16,310 was made for the purchase, transportation, and setting of 114 tablets, and for other necessary expenditures in connection with this work.

RECORDS.

The "card system" of keeping the records, which was adopted in this office on November 15, 1890, has continued satisfactorily during the past fiscal year, and the current work of the office has been transacted with promptness.

Very respectfully,

R. N. BATCHELDER,
Quartermaster-General, U. S. Army.

Hon. S. B. ELKINS,
Secretary of War.

List of papers accompanying the annual report of the Quartermaster-General for the fiscal year ending June 30, 1892.

1. Report of Lieut. Col. M. I. Ludington, deputy quartermaster-general, U. S. Army, of the operations of the inspection branch of the Quartermaster-General's Office during the fiscal year ending June 30, 1892.
2. Report of Lieut. Col. M. I. Ludington, deputy quartermaster-general, U. S. Army, of the operations of the finance branch of the Quartermaster-General's Office during the fiscal year ending June 30, 1892.
3. Report of Lieut. Col. M. I. Ludington, deputy quartermaster-general, U. S. Army, of the operations of the money and property accounts branch of the Quartermaster-General's Office during the fiscal year ending June 30, 1892.

A. Statement showing number of money accounts and returns of quartermaster's stores received and disposed of during the fiscal year ending June 30, 1892.

B. Statement showing the amount received from sales of quartermaster's stores to officers and soldiers during the fiscal year ending June 30, 1892.

C. Statement showing in detail the amounts expended from the various appropriations made for the Quartermaster's Department for the fiscal year 1892, as shown by the accounts of officers, from July 1, 1891, to July 1, 1892, and, so far as accounts have been received in this office, up to and including September 1, 1892, and supplement pertaining to the fiscal year ending June 30, 1891.

D. Statement showing number of civilian employés employed by the month, as reported by officers of the Quartermaster's Department on their report of persons for June, 1892.

E. Statement of amounts expended by each officer serving in the Quartermaster's Department during the fiscal year ending June 30, 1892, etc.

4. Report of Lieut. Col. M. I. Ludington, deputy quartermaster-general, U. S. Army, of the operations of the clothing and equipage returns branch of the Quartermaster-General's Office during the fiscal year ending June 30, 1892.
5. Report of Lieut. Col. M. I. Ludington, deputy quartermaster-general, U. S. Army, of the operations of the clothing supply branch of the Quartermaster-General's Office during the fiscal year ending June 30, 1892.

A. Statement showing articles of clothing and equipage and materials on hand at the issuing depots of the Quartermaster's Department June 30, 1891, the quantities purchased, manufactured, received from posts and depots, taken up, sold, transferred to general depots, expended, issued to the Army and militia, and the quantities remaining in the depots June 30, 1892.

6. Report of Lieut. Col. M. I. Ludington, deputy quartermaster-general, U. S. Army, relating to the care and maintenance of national cemeteries during the fiscal year ending June 30, 1892.

A. Statement of disbursements of appropriation "National cemeteries" during the fiscal year ending June 30, 1892.

7. Report of Maj. James Gilliss, quartermaster, U. S. Army, of the operations of the transportation, regular supplies, and claims under act July 4, 1864, branches, during the fiscal year ending June 30, 1892.

8. Report of Capt. W. S Patten, assistant quartermaster, U. S. Army, of the operations of the miscellaneous claims branch and mail and record division of the Quartermaster-General's Office during the fiscal year ending June 30, 1892.

9. Report of Capt. C. P. Miller, assistent quartermaster, U. S. Army, of the operations of the barracks and quarters branch of the Quartermaster-General's Office during the fiscal year ending June 30, 1892.

A. Statement showing property rented by the Quartermaster's Department during the fiscal year ending June 30, 1892.

10. Report of Capt. O. F. Long, assistant quartermaster, U. S. Army, of the operations of the reservation branch of the Quartermaster-General's Office during the fiscal year ending June 30, 1892.

A. Statement of expenditures authorized for water, sewerage, plumbing, etc., chargeable to appropriation for "Army transportation," for the fiscal year ending June 30, 1892.

B. Statement of expenditures authorized for lighting, heating, etc., chargeable to appropriation for regular supplies, for the fiscal year ending June 30, 1892.

C. Statement showing military reservations turned over to the Interior Department or otherwise disposed of since 1858.

D. Statement giving alphabetical list of military reservations, showing location, size, how occupied, accommodations for officers and men, etc., on June 30, 1892.

1.

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., September 15, 1892.

GENERAL: I have the honor to submit my report of the operations of the inspection branch of this office for the fiscal year ending June 30, 1892.

The business assigned to the inspection branch during the past fiscal year has received the necessary and appropriate action. In this branch cognizance is taken of such matters as relate to the personnel of the officers of the Quartermaster's Department, their assignment to stations, furnishing official bonds, etc., and to matters which pertain individually to clerks and employés in the office of the Quartermaster-General and of the Quartermaster's Department at large. All reports, such as the biennial and annual return of officers of the Quartermaster's Department, and monthly and semimonthly pay rolls of clerks and employés in this office, are prepared therein, and action is taken on all matters pertaining to the post quartermaster sergeants and the detachment of army service men, Quartermaster's Department, at West Point.

The distribution of books, orders, circulars, and other printed matter intended for the use of officers of the Quartermaster's Department is made from this branch, and during the past fiscal year 99,818 of such orders, books, etc., were so distributed.

The 80 post quartermaster sergeants authorized by law are in service, and during the fiscal year have generally performed their duties in a satisfactory manner.

The organization of enlisted men at West Point, N. Y., known as "the detachment of army service men, Quartermaster's Department," has continued to perform duty at that station during the past fiscal year, and the members thereof are reported by the commanding officer to have rendered efficient and satisfactory service during that period. This detachment when complete consists of 117 men, their duties being

mainly to take care of the buildings and grounds at the Military Academy.

	Men.
At the beginning of the fiscal year, commencing July 1, 1891, there were serving in this detachment	110
The changes in this organization during the past fiscal year, were as follows:	
Number of men transferred and discharged from the detachment, from July 1, 1891, to June 30, 1892	39
	71
Number of men enlisted and transferred to the detachment, from July 1, 1891, to June 30, 1892	45
	116
Vacancies on June 30, 1892	1
	117

Capt. W. H. Miller, assistant quartermaster, the commanding officer of the detachment at West Point, N. Y., reports that there are only 8 men now serving in this organization whose ages are over 53 years, and that these are and have been for a number of years assigned to special duties in the various departments of work at the Military Academy requiring special knowledge and fitness. He further reports that great care has been and will continue to be exercised by him in the enlistment of men for this detachment, in order to bring it up to and keep it in a high state of efficiency.

The officers of the Quartermaster's Department, regular establishment, are as follows: 1 Quartermaster-General, 4 assistant quartermasters-general, 8 deputy quartermasters-general, 14 quartermasters, 30 assistant quartermasters, 2 military storekeepers; total 59.

Very respectfully,

M. I. LUDINGTON,
Deputy Quartermaster-General, U. S. Army.

The QUARTERMASTER-GENERAL, U. S. ARMY.

2.

Annual report of the finance branch for the fiscal year ending June 30, 1892.

This branch has charge of matters relating to the procurement and distribution of funds, the compilation and preparation for Congress of the annual estimates of funds for the service of the Quartermaster's Department, and for funds required for the Quartermaster-General's Office; the examination of estimates of funds received from disbursing officers, and the issue of requisitions in favor of such disbursing officers; the action upon settlements made at Treasury of claims and accounts pertaining to the Quartermaster's Department; the abstracting of weekly and monthly statements of funds for comparison with the Treasury records, and the conducting of the necessary correspondence, and the keeping of the prescribed records and necessary memorandum books connected with foregoing.

From the balance books upon which all debits and credits are recorded, the following statement has been prepared:

Annual report of the finance branch for the fiscal year ending June 30, 1892.

Appropriations.	Balance in Treasury undrawn July 1, 1891.	Appropriated.		Placed to credit of appropriations during the year, being the proceeds of sales to officers, etc.	Placed to credit of appropriations by Treasury transfer warrants.	Total to be accounted for.	Remitted to disbursing officers.	Requisitions issued on settlements made at Treasury of claims and accounts.	Amounts charged against appropriations by Treasury transfer warrants.	Amounts carried to surplus fund, act June 20, 1874.	Balance in Treasury undrawn June 30, 1892, available for outstanding obligations.	Total accounted for.
		Amount.	Date of act.									
1888-'89.												
Transportation of the Army and its supplies	$2,373.11					$2,373.11		$2,373.11				$2,373.11
Shooting galleries and ranges	4,496.05					4,496.05					$4,496.05	4,496.05
Total	6,869.16					6,869.16		2,373.11			4,496.05	6,869.16
1889 and prior years.												
Regular supplies				$386.16		386.16				$386.16		386.16
Incidental expenses				58.04		58.04				58.04		58.04
Horses for cavalry and artillery				137.50		137.50				137.50		137.50
Barracks and quarters				.17		.17				.17		.17
Transportation of the Army and its supplies				267.97		267.97				267.97		267.97
Clothing, camp, and garrison equipage				383.16		383.16				383.16		383.16
Construction and repair of hospitals				1.80		1.80				1.80		1.80
National cemeteries				6.66		6.66				6.66		6.66
Total				1,241.46		1,241.46				1,241.46		1,241.46
1889 and prior years, transfer account.												
Regular supplies				1,794.60		1,794.60		339.59	$1,455.01			1,794.60
Incidental expenses				94.37	$44.23	138.60		138.60				138.60
Horses for cavalry and artillery				50.00		50.00			50.00			50.00
Barracks and quarters				1.25		1.25			1.25			1.25

Annual report of the finance branch for the fiscal year ending June 30, 1892—Continued.

Appropriations.	Balance in Treasury undrawn July 1, 1891.	Appropriated.		Placed to credit of appropriations during the year, being the proceeds of sales to officers, etc.	Placed to credit of appropriations by Treasury transfer warrants.	Total to be accounted for.	Remitted to disbursing officers.	Requisitions issued on settlements made at Treasury of claims and accounts.	Amounts charged against appropriations by Treasury transfer warrants.	Amounts carried to surplus fund, act June 20, 1874.	Balance in Treasury undrawn June 30, 1892, unavailable for outstanding obligations.	Total accounted for.
		Amount.	Date of act.									
1889 and prior years, transfer account—Continued.												
Transportation of the Army and its supplies				$802.50		$802.50		$396.92	$405.58			$802.50
Clothing, camp and garrison equipage				6.00		6.00			6.00			6.00
National cemeteries					$0.27	.27		.27				.27
Shooting galleries and ranges				1.25		1.25		1.25				1.25
Total				2,749.97	44.50	2,794.47		876.63	1,917.84			2,794.47
1889–'90.												
Regular supplies	$94,979.60			3,651.88		98,631.48	$670.13	215.51		$97,745.84		98,631.48
Incidental expenses	21,876.96			3,320.89		25,197.85	5,599.32	633.47		18,965.06		25,197.85
Horses for cavalry and artillery	3,008.44					3,008.44				3,008.44		3,008.44
Barracks and quarters	10,463.44			4,166.43		14,629.87		3,742.90		10,886.97		14,629.87
Transportation of the Army and its supplies	424.53			11,733.15		12,157.68		12,157.68				12,157.68
Clothing, camp and garrison equipage	3,047.62			640.15		3,687.77		3,262.63		425.14		3,687.77
National cemeteries	1,752.97			59.56		1,812.53		396.07		1,416.46		1,812.53
Pay of superintendents of national cemeteries	202.49					202.49				202.49		202.49
Shooting galleries and ranges	705.96			.60		706.56				706.56		706.56
Quarters for hospital stewards	66.23			9.00		75.23		6.93		68.30		75.23
Total	136,528.24			23,581.66		160,109.90	6,269.45	20,415.19		133,425.26		160,109.90

1890-'91.												
Regular supplies	242,042.40			140,414.53		382,456.93	50,206.61	5,608.32			$317,642.00	382,456.93
Incidental expenses	16,803.20			13,583.19		30,386.39	5,689.76	1,292.43			23,404.20	30,386.39
Horses for cavalry and artillery	31,158.27			296.14		31,454.41	8,844.00	278.75			22,331.66	31,454.41
Barracks and quarters	28,052.51			11,594.06		39,646.57	37,424.18	422.50			1,799.89	39,646.57
Transportation of the Army and its supplies	426,363.72			121,410.14		547,773.86	200,066.66	75,053.05			272,654.15	547,773.86
Clothing, camp and garrison equipage	76,390.26			58,521.93		134,912.19	126,036.47	55.07			8,820.65	134,912.19
Construction and repair of hospitals	26,170.34			2,649.98		28,820.32	26,789.42	1,840.84			190.06	28,820.32
National cemeteries	1,729.16			193.62		1,922.78	1,519.28	330.23			73.27	1,922.78
Pay of superintendents of national cemeteries	106.17			307.00		413.17					413.17	413.17
Shooting galleries and ranges	204.66			91.66		296.32	93.36				202.96	296.32
Quarters for hospital stewards	556.20			161.70		717.90		190.00			527.90	717.90
Total	849,576.89			349,223.95		1,198,800.84	465,669.74	85,071.19			648,059.91	1,198,800.84
1891-'92.												
Regular supplies		$2,678,000.00	Feb. 24, 1891	126,895.34		2,804,895.34	2,553,804.84	5,657.19			245,433.31	2,804,895.34
Incidental expenses		675,000.00	....do	272.91		675,272.91	650,025.86	120.33			25,126.72	675,272.91
Horses for cavalry and artillery		150,000.00	....do	1,263.40		151,263.40	104,040.99				47,222.41	151,263.40
Barracks and quarters		725,000.00	....do	3,939.86		728,939.86	655,696.73				73,243.13	728,939.86
Transportation of the Army and its supplies		2,750,000.00	....do	27,242.11		2,777,242.11	2,250,676.71	21,945.37			504,620.03	2,777,242.11
Clothing, camp and garrison equipage		1,175,000.00	....do	278,577.07		1,453,577.07	1,319,263.18	1,996.37			132,317.52	1,453,577.07
Construction and repair of hospitals		75,000.00	....do	374.26		75,374.26	62,164.16				13,210.10	75,374.26
National cemeteries		100,000.00	Mar. 3, 1891			100,000.00	98,939.18				1,060.82	100,000.00
Pay of superintendents of national cemeteries		61,160.00	....do			61,160.00	60,129.17	112.50			918.33	61,160.00
Shooting galleries and ranges		5,000.00	Feb. 24, 1891	.46		5,000.46	4,972.05				28.41	5,000.46
Quarters for hospital stewards		12,000.00	....do	2,638.67		14,638.67	13,338.19				1,300.48	14,638.67
Total		8,406,160.00		441,204.08		8,847,364.08	7,773,051.06	29,831.76			1,044,481.26	8,847,364.08
Certified claims.												
Transportation of the Army and its supplies	1,011.82					1,011.82					1,011.82	1,011.82

Annual report of the finance branch for the fiscal year ending June 30, 1892—Continued.

Appropriations.	Balance in Treasury undrawn July 1, 1891.	Appropriated.		Placed to credit of appropriations during the year, being the proceeds of sales to officers, etc.	Placed to credit of appropriations by Treasury transfer warrants.	Total to be accounted for.	Remitted to disbursing officers.	Requisitions issued on settlements made at Treasury of claims and accounts.	Amounts charged against appropriations by Treasury transfer warrants.	Amounts carried to surplus fund, act June 20, 1874.	Balance in Treasury undrawn June 30, 1892, available for outstanding obligations.	Total accounted for.
		Amount.	Date of act.									
Indefinite or special.												
Approaches to the national cemetery, Culpeper, Va				$0.24		$0.24					$0.24	$.24
Approaches to the national cemetery near Danville, Va				442.28		442.28					442.28	442.28
Barracks and quarters, Fort Myer, Va				7.00		7.00					7.00	7.00
Battle lines and sites for tablets at Antietam	$15,000.00					15,000.00	$7,500.00				7,500.00	15,000.00
Burial of indigent soldiers		$1,500.00	Mar. 3, 1891			1,500.00	1,500.00					1,500.00
Fort Brady military post, Mich	96,837.60					96,837.60	96,837.60					96,837.60
Headstones for graves of soldiers	59,967.27	10,000.00	Mar. 3, 1891			69,967.27	23,552.81	$394.37			46,020.09	69,967.27
Headstones for graves of soldiers, transfer account					$4.28	4.28		4.28				4.28
Levee at Brownsville national cemetery, Tex				243.00		243.00					243.00	243.00
Land for military post at Madison Barracks, N. Y.		10,000.00	Feb. 24, 1891			10,000.00	10,000.00					10,000.00
Military posts	113,622.24	745,000.00	Mar. 3, 1891	9,473.19		868,095.43	586,492.13				281,603.30	868,095.43
Military post near Newport, Ky. (site)	11,972.05					11,972.05	11,834.00				138.05	11,972.05
Military post near Newport, Ky. (buildings)	13,339.51					13,339.51					13,339.51	13,339.51
Military post at Fort Omaha, Nebr	113,383.54					113,383.54	14,650.00				98,733.54	113,383.54
Military post near Chicago, Ill	346.66					346.66					346.66	346.66
Military post, Fort Bliss, Tex	148,959.00					148,959.00	4,409.69				144,549.31	148,959.00

Military post, Fort Sydney, Nebr	15,004.86					15,004.86					15,004.86	15,004.86
Military post near Denver, Colo	5.83					5.83					5.83	5.83
Military post, Atlanta, Ga	75,000.00					75,000.00					75,000.00	75,000.00
Military post, Fort Snelling, Minn	15,000.00					15,000.00					15,000.00	15,000.00
Military post, Plattsburg, N. Y	200,000.00					200,000.00					200,000.00	200,000.00
Military post at Eagle Pass, Tex. (site)		20,000.00	Mar. 3, 1891			20,000.00					20,000.00	20,000.00
Military post, Helena, Mont		100,000.00	May 12, 1892			100,000.00					100,000.00	100,000.00
National cemetery, Hampton, Va	9,750.00	2,000.00	Mar. 3, 1891			11,750.00	11,750.00					11,750.00
Officers' quarters, military post at Columbus, Ohio	471.90					471.90					471.90	471.90
Purchase of Fort Brown reservation, Tex	160,000.00					160,000.00					160,000.00	160,000.00
Purchase of land for target ranges, Fort McPherson, Ga	16,500.00					16,500.00					16,500.00	16,500.00
Purchase of buildings at military posts		50,000.00	Feb. 24, 1891			50,000.00	40,272.52				9,727.48	50,000.00
Road from Natchez to the national cemetery, Mississippi	106.29					106.29		22.64			83.65	106.29
Road to the national cemetery, Presidio of San Francisco, Cal		10,000.00	Mar. 3, 1891			10,000.00	9,000.00				1,000.00	10,000.00
Road to the national cemetery at Hampton, Va	2,000.00					2,000.00					2,000.00	2,000.00
Road from Staunton to the national cemetery, Virginia	6,000.00			234.81		6,234.81	6,000.00				234.81	6,234.81
Road to the national cemetery, Port Hudson, La	13,400.00					13,400.00	13,400.00					13,400.00
Repairing roads to national cemeteries	9,004.69	15,000.00	Mar. 3, 1891			24,004.69	5,792.58				18,212.11	24,004.69
Road to the national cemetery near Beverly, N. J	451.44					451.44					451.44	451.44
Road to the national cemetery near Fredericksburg, Va	4,500.00			1.35		4,501.35	4,500.00				1.35	4,501.35
Road from Antietam to the national cemetery, Maryland	3.12					3.12					3.12	3.12
Road from Alexandria to the national cemetery, Virginia	7,000.00			3.84		7,003.84	7,000.00				3.84	7,003.84

Annual report of the finance branch for the fiscal year ending June 30, 1892—Continued.

Appropriations.	Balance in Treasury undrawn July 1, 1891.	Appropriated.		Placed to credit of appropriations during the year, being the proceeds of sales to officers, etc.	Placed to credit of appropriations by Treasury transfer warrants.	Total to be accounted for.	Remitted to disbursing officers.	Requisitions issued on settlements made at Treasury of claims and accounts.	Amounts charged against appropriations by Treasury transfer warrants.	Amounts carried to surplus fund, act June 20, 1874.	Balance in Treasury undrawn June 30, 1892, available for outstanding obligations.	Total accounted for.
		Amount.	Date of act.									
Indefinite or special—Continued.												
Road from Newbern to the national cemetery, North Carolina	$12.95					$12.95		$3.00			$9.95	$12.95
Road from national cemetery near Mound City to Mounds Junction, Ill.		$10,000.00	Mar. 3, 1891			10,000.00					10,000.00	10,000.00
Rifle range, Fort Sheridan, Ill	252.00			$8.83		260.83	$252.00				8.83	260.83
Tents for sufferers from floods in Arkansas, Mississippi, and Louisiana				8.10		8.10		6.98			1.12	8.10
Water supply, Fort D. A. Russell, Wyo	2,958.15					2,958.15					2,958.15	2,958.15
Total indefinite	1,110,849.10	973,500.00		10,422.64	$4.28	2,094,776.02	854,743.33	431.27			1,239,601.42	2,094,776.02
Army transportation, Pacific roads.												
1889 and prior years					4,900.28	4,900.28		4,900.28				4,900.28
1889 and prior years, transfer account				31.42		31.42			$31.42			31.42
1890				3.72	47,288.21	47,291.93		47,291.93				47,291.93
1891				3.88	119,480.56	119,484.44		119,484.44				119,484.44
1892					4,763.25	4,763.25		4,763.25				4,763.25
Total				39.02	176,432.30	176,471.32		176,439.90	31.42			176,471.32
Grand total	2,104,835.21	9,379,660.00		828,462.78	176,482.08	12,489,439.07	9,099,733.58	315,439.05	1,049.26	$134,666.72	2,937,650.46	12,489,439.07

The records of this branch show the following amounts remitted from regular and from indefinite or special appropriations:

Remitted from regular appropriations.

Divisions, departments, etc.	Regular supplies.	Incidental expenses.	Cavalry and artillery horses.	Barracks and quarters.	Transportation of the Army and its supplies.	Clothing, camp and garrison equipage.	Construction and repair of hospitals.	National cemeteries.	Pay of superintendents of national cemeteries.	Shooting galleries and ranges.	Quarters for hospital stewards.	Total.
Department of the East	$252,274.63	$81,386.61	$2,305.00	$152,867.35	$240,693.74	$400.00	$11,486.06			$347.73	$6,230.20	$747,991.32
Department of the Missouri	265,868.26	66,652.02	9,115.80	67,107.25	180,427.72	93.73	3,130.10	$15.00		345.18	504.12	593,259.18
Department of Texas	203,048.90	35,158.47	13,760.00	39,383.86	127,844.91	74.85	7,403.07			457.59	486.82	427,618.47
Department of the Platte	339,583.06	65,025.32	12,460.00	81,956.77	375,363.85	40.25	8,066.42			269.92	1,179.47	883,9 5.06
Department of Dakota	420,991.16	59,103.40	14,730.89	63,660.98	250,467.74	1,803.60	3,940.39			330.85	993.80	816,022.81
Department of California	123,579.22	30,148.45	6,935.00	40,200.65	90,008.86	81.00	2,558.82			191.80	1,323.11	295,026.91
Department of the Columbia	140,433.89	27,600.52	5,740.00	32,517.10	65,436.31	2.00	3,916.70			17.13	630.39	276,456.04
Department of Arizona	393,211.89	41,557.68		66,751.34	177,010.91		5,596.03			458.85	307.78	684,894.48
Depot at New York	80,788.70	37,203.19	758.00	3,848.50	184,232.39	40.00		3,893.90	$900.00			311,664.68
Depot at Philadelphia	24,488.81	25,388.57		3,287.86	53,024.80	981,314.86		5,450.87	2,283.50			1,095,239.27
Depot at Washington	35,965.46	27,100.35		10,921.31	65,820.74	177.30	8.00	46,883.93	20,360.00			207,237.09
Depot at Jeffersonville	90,327.34	56,794.42		249.48	120,131.13	126,522.25		2,224.00	3,520.00			399,768.62
Depot at St. Louis	6,684.58	23,432.80	38,236.30	9,201.31	90,033.15	11,782.67		10,848.48	10,601.67			200,820.96
Depot at San Francisco	10,697.59	16,194.60		13,391.63	29,415.25	142,507.34		714.94	720.00			213,641.35
Columbus Barracks, Ohio	10,946.08	4,708.77		4,444.39	24,140.95	6.00	1,140.75				135.00	45,521.94
Jefferson Barracks, Mo	16,483.01	6,295.91		10,601.13	23,778.14		67.60				20.05	57,245.84
West Point, N. Y	24,382.30	10,536.90			3,886.49							38,805.69
Willets Point, New York Harbor	527.65	2,020.00		14,632.21	3,785.10	25.00	519.00					21,508.96
Davids Island, New York Harbor	3,190.22	3,961.58		23,815.76	13,893.60	3.25	500.00				238.00	45,602.41
Military prison, Kansas	2,408.21	2,458.80		5,000.00	11,911.01	54,389.08						76,167.10
Springfield Armory, Massachusetts	1,848.99	330.00		142.82	186.00							2,507.81
Hot Springs, Ark	5,100.06	2,680.84			1,246.46		200.00					9,227.36
Atlanta, Ga. (cemeterial)	1,832.79	3,642.00		300.00	38.40			28,789.16	21,744.00			56,346.35
Powder depot, New Jersey	282.05				225.00							507.05
Fort McPherson, Ga	11,004.61	3,873.50		3,981.49	10,261.24		227.15					29,347.99
Fort Sheridan, Ill	35,752.69	3,966.30		2,193.87	53,304.46		13,305.07			6.00		108,528.39
Fort Riley, Kans	4,848.13	5,211.67		87.82	6,792.50						1,265.45	18,205.57
Fort Thomas, Ky	25,696.53	2,523.21		4,340.35	24,409.95		99.00			2,385.00	24.00	59,478.04
Fort Brady, Mich	7,843.94	2,275.50		360.00	15,754.66							26,234.10
Fort Bliss, Tex	226.27	1,609.96		451.50	1,716.15							4,003.88
Allegheny Arsenal	905.39	10.00			147.97							1,063.36
Augusta Arsenal	1,040.55	7.50			94.73							1,142.78
Benicia Arsenal	2,878.62	138.35			360.00							3,376.97
Columbia Arsenal	824.36	55.00			50.00							929.36
Frankford Arsenal					999.96							999.96

Remitted from regular appropriations—Continued.

Divisions, departments, etc.	Regular supplies.	Incidental expenses.	Cavalry and artillery horses.	Barracks and quarters.	Transportation of the Army and its supplies.	Clothing, camp and garrison equipage.	Construction and repair of hospitals.	National cemeteries.	Pay of superintendents of national cemeteries.	Shooting galleries and ranges.	Quarters for hospital stewards.	Total.
Indianapolis Arsenal	$460.41											$460.41
Kennebec Arsenal	1,250.00	$20.00			$130.00							1,400.00
Rock Island Arsenal	2,447.84	157.12			1,991.22			$118.90				4,715.08
Watertown Arsenal	1,693.61	130.40			963.54							2,787.55
Watervliet Arsenal	1,987.04	666.15			697.68							3,350.87
Total	2,553,804.84	650,025.86	$104,040.99	$655,696.73	2,250,676.71	$1,319,263.18	$62,164.16	98,939.18	$60,129.17	$4,972.05	$13,338.19	7,773,051.06

Remitted from machinery appropriations.

Divisions, departments, etc.	Military posts.	Purchase of buildings at military posts.	Headstones for graves of soldiers.	Land for military post at Madison Barracks, N. Y.	Military post, Fort Omaha, Nebr.	Road to the national cemetery near Fredericksburg, Va.	Road from Staunton to the national cemetery, Va.	Road from Alexandria to the national cemetery, Va.	Road to the national cemetery, Presidio of San Francisco, Cal.
Department of the East	$361.38			$10,000.00					
Department of the Missouri	17,590.00	$12,845.00	$4.25						
Department of Texas		1,200.00							
Department of the Platte	65,601.22	3,030.00			$14,650.00				
Department of Dakota	24,276.05	10,932.52							
Department of California		5,500.00							
Department of the Columbia		3,345.00							
Department of Arizona		3,420.00							
Depot at New York			22,309.40						
Depot at Washington	1,444.00		1,165.95			$4,500.00	$6,000.00	$7,000.00	
Depot at St. Louis			73.21						
Depot at San Francisco									$9,000.00
Columbus Barracks, Ohio	13.29								
Willets Point, New York Harbor	16,085.50								
Atlanta, Ga. (cemeterial)									
Fort McPherson, Ga	72,252.94								
Fort Sheridan, Ill	246,038.16								
Fort Riley, Kans	10,000.00								
Fort Thomas, Ky	120,437.77								
Fort Brady, Mich	12,118.62								
Fort Bliss, Tex	273.20								
Total	586,492.13	40,272.52	23,552.81	10,000.00	14,650.00	4,500.00	6,000.00	7,000.00	9,000.00

Remitted from indefinite appropriations—Continued.

Divisions, departments, etc.	Road to the national cemetery, Port Hudson, La.	Repairing roads to national cemeteries.	National cemetery, Hampton, Va.	Burial of indigent soldiers.	Battle lines and sites for tablets at Antietam.	Military post near Newport, Ky., site.	Rifle range at Fort Sheridan, Ill.	Fort Brady military post, Mich.	Military post, Fort Bliss, Tex.	Total.
Department of the East		$500.00								$10,861.38
Department of the Missouri							$59.42			30,498.67
Department of Texas										1,200.00
Department of the Platte										83,281.22
Department of Dakota										35,208.57
Department of California										5,500.00
Department of the Columbia										3,345.60
Department of Arizona										3,420.00
Depot at New York										22,309.40
Depot at Washington		4,601.23	$11,750.00	$1,500.00	$7,500.00	$11,834.00				57,385.18
Depot at St. Louis		601.35								674.56
Depot at San Francisco										9,000.00
Columbus Barracks, Ohio										13.29
Willets Point, New York Harbor										16,085.50
Atlanta, Ga. (cemeterial)	$13,400.00									13,400.00
Fort McPherson, Ga										72,252.94
Fort Sheridan, Ill							192.58			246,230.74
Fort Riley, Kans										10,000.00
Fort Thomas, Ky										120,437.77
Fort Brady, Mich								$96,837.60		108,956.22
Fort Bliss, Tex									$4,409.69	4,682.89
Total	13,400.00	5,792.58	11,750.00	1,500.00	7,500.00	11,834.00	252.00	96,837.60	4,409.69	854,743.33

Respectfully submitted.

M. I. LUDINGTON,
Deputy Quartermaster-General, U. S. Army.

QUARTERMASTER-GENERAL'S OFFICE,
September 12, 1892.

3.

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., September 15, 1892.

GENERAL: I have the honor to submit a report of the operations of the money and property branch of this office during the fiscal year 1892.

The duties of this branch are the administrative examination of the money accounts and returns of quartermaster's stores rendered by officers serving in the Quartermaster's Department before their transmission to the accounting officers for final action.

It also takes action on certificates of deposits of funds pertaining to the appropriations for the Quartermaster's Department received from sales to officers and soldiers, sales at auction and other sources, and upon boards of survey and inventory and inspection reports of quartermaster's stores no longer fit for issue or use.

The accompany statements exhibit in detail the work of the branch, and are marked:

A.—A statement showing number of accounts and returns examined, etc.

B.—A statement showing the amounts received from sales of quartermaster's stores to officers and soldiers.

C.—A statement showing in detail the amounts expended under the various heads of appropriations for the fiscal year 1892, and supplement pertaining to fiscal year ended June 30, 1891.

D.—A statement showing the number of civilians employed by the month, etc.

E.—A statement of amounts expended by each officer serving in the Quartermaster's Department.

Very respectfully,

M. I. LUDINGTON,
Deputy Quartermaster-General, U. S. Army.

The QUARTERMASTER-GENERAL, U. S. ARMY.

A.—*Statement showing the number of money accounts and returns of quartermaster's stores received and disposed of during the fiscal year ending June 30, 1892.*

MONEY ACCOUNTS.

On hand July 1, 1891	$1,288
Received during the year	3,122
Total	4,410
Examined and sent to the auditor	2,905
Remaining on hand July 1, 1892	1,505

PROPERTY RETURNS.

On hand July 1, 1891	1,925
Received during the year	3,734
Total	5,659
Examined and sent to the auditor	3,594
Remaining on hand July 1, 1892	2,065

B.—Statement showing the amount received from sales of quartermaster's stores to officers and soldiers of the Army during the fiscal year ending June 30, 1892.

From returns made to date there has been received from such sales	$172,453.14
This amount has been credited to appropriations as follows:	
Regular supplies	$135,255.71
Incidental expenses	12.10
Cavalry and artillery horses	123.70
Transportation of the Army	2,780.98
Clothing and equipage	34,280.65
Total	172,453.14

C.—*Statement showing in detail the amounts expended from the various appropriations dependent posts, and departments of the Army, as shown by the accounts of officers, from and including September 1, 1892.*

Division, department, and post.	REGULAR SUPPLIES.					
	Forage and straw.	Fuel.	Heating and cooking apparatus, and repairs to same.	Illuminating supplies.	Stationery.	Advertising.
General depots.						
New York, N. Y	$6,054.07	$20,299.99	$4,323.33	$17,280.13	$6,577.43	$527.00
Philadelphia, Pa	1,493.14	2,170.42	142.90	736.65	525.88	360.70
Washington, D. C	36,984.46	18,333.96	5,234.67	1,031.88	2,657.55	98.41
Jeffersonville, Ind	1,365.02	8,141.42	11,185.65	20,888.66	16,724.52	379.67
San Francisco, Cal	2,626.78	5,894.42	1,584.62	866.93	1,102.61	.....
St. Louis, Mo	2,356,27	1,194.16	1,026.02	345.42	372.33	.....
Total	50,879.74	56,034.37	23,497.19	41,149.67	27,960.32	1,365.78
Independent posts.						
Atlanta, Ga	1,521,48	991.03	1,679.50	316.06	37.85	.....
Columbus Barracks, Ohio	1,472.59	3,937.90	754.87	2,515.31	.75	.....
Sault Ste. Marie, Mich	.....	.....	253.20	1,600.00	8.40	3.00
Davids Island, N. Y. Harbor	.....	.....	381.19	1,639.24	.....	.....
West Point, N. Y	14,451.23	6,666.56	.....	540.93	.....	141.84
Jefferson Barracks, Mo	6,716.89	7,716.45	335.35	590.40	.....	64.05
Willets Point, N. Y	.....	.....	317.37	25.86	3.80	.....
Hot Springs, Ark	821.57	2,516.40	71.80	1,563.46	.....	8.00
El Paso, Tex	.....	185.02	.....	.....	.....	.....
U. S. Powder Depot, N. J	178.44	48.75	.....	.....	.....	.....
Fort Snelling, Ordnance Depot, Minn	.....	.....	.....	3.24	.....	.....
Augusta Arsenal, Ga	340.88	626.22	9.25	2.00	.....	.....
Indianapolis Arsenal, Ind	286.60	34.00	.....	128.17	.....	.....
National Armory, Springfield, Mass	634.39	1,206.99	.....	.....	.....	3.60
Columbia Arsenal, Tenn	151.25	583.40	75.00	2.65	.....	.....
Kennebec Arsenal, Me	126.64	1,113.61	.....	.....	.....	.....
Watervliet Arsenal, N. Y	591.84	1,030.02	6.50	.....	.....	.....
Allegheny Arsenal, Pa	508.55	300.62	37.44	56.03	.....	.....
Frankford Arsenal, Pa	654.96	806.95	.....	.....	.....	.....
Benicia Arsenal, Cal	624.25	2,058.89	.....	3.22	.....	22.55
Watertown Arsenal, Mass	622.64	1,068.47	.....	2.50	.....	.....
Rock Island Arsenal, Ill	511.47	2,008.88	20.00	1.95	.....	18.98
U. S. legations at London, Paris, Berlin, Vienna, St. Petersburg, and Dusseldorf	301.03	613.52	.....	.....	164.00	.....
Total	30,516.70	33,513.68	3,941.47	8,991.02	214.80	262.02
Department of the East.						
Headquarters, Governors Island, N. Y	11,014.36	28,296.31	1,196.40	34.75	136.74	476.66
Baltimore, Md	4,445.39	10,455.10	458.04	102.00	38.01	.....
Buffalo, N. Y	5,595.39	28,363.32	490.32	.....	19.52	.....
Boston, Mass	8,126.81	23,069.20	902.22	27.71	18.55	.....
Fort Monroe, Va	2,691.58	9,376.09	122.00	15.36	497.89	19.18
New Orleans, La	7,137.12	20,313.24	94.88	15.61	52.25	.....
Washington Barracks, D. C	.....	.....	1,807.63	2,820.43	.....	.....
Newport Barracks, Ky	.....	90.00	52.25	8.50	1.45	.....
Jackson Barracks, La	.....	.....	.....	4.91	.....	.....
St. Francis Barracks, Fla	.....	.....	.....	7.66	.....	.....
Fort Warren, Mass	.....	.....	.....	6.75	.....	.....
Mount Vernon Barracks, Ala	.....	.....	.....	33.49	.....	.....
Fort Preble, Me	.....	.....	56.58	9.54	.....	.....
Fort Trumbull, Conn	6.60	.....	.....	5.70	.....	.....
Fort Adams, R. I	2,851.88	3.70	.....	8.70	.....	.....
Fort Thomas (and Newport), Ky.	154.81	148.40	14,716.81	7,991.78	29.81	.....
Fort Myer, Va	.....	.....	249.30	6.77	.....	.....
Fort Hamilton, N. Y	336.58	.....	1,643.02	18.15	.....	.....
Fort Wood, N. Y	.....	.....	263.15	4.90	.....	.....
Fort McHenry, Md	.....	.....	280.65	5.76	.....	.....
Fort Schuyler, N. Y	33.75	.....	223.60	6.93	.....	.....
Fort Wadsworth, N. Y	21.30	.....	464.00	22.45	.....	.....
Fort Porter, N. Y	.....	.....	231.85	1,129.79	.....	.....
Fort Ontario, N. Y	71.40	.....	50.86	5.23	.....	.....
Key West Barracks, Fla	.....	.....	.....	12.86	.....	.....
Fort Barrancas, Fla	.....	.....	.....	4.50	.....	.....

made for the Quartermaster's Department for the fiscal year 1892, in the general depots, in-
July 1, 1891, to July 1, 1892, and, so far as accounts have been received in this office, up to

REGULAR SUPPLIES.							INCIDENTAL EXPENSES.	
Printing.	Post school-books and supplies.	Tableware and mess furniture.	Garden utensils and agricultural implements.	Employés.	All expenses not otherwise enumerated.	Total amounts.	Postage.	Printing.
$74.21	$1,765.65	$915.98	$852.74	$4,529.92	$17,233.51	$80,433.96	$49.00	.....
3.80	.....	10,455.62	.....	.....	758.69	16,647.80	47.00	$9.84
4.50	.....	.....	.....	2,100.49	5,281.47	71,727.39	10.00	.....
122.27	495.42	59.84	2,025.88	1,800.00	6,011.37	69,199.72	3.45	26.30
15.00	199.06	295.60	34.70	.....	424.44	13,044.16	39.00	.....
44.83	665.65	4.68	11.33	.....	842.37	6,863.06	16.00	23.70
264.61	3,125.78	11,731.72	2,924.65	8,430.41	30,551.85	257,916.09	164.45	59.84
6.00	.....	.....	.....	.....	126.00	4,677.92	.....	.....
.....	.....	88.12	.....	1,320.00	40.23	10,129.77	.....	.....
.....	.....	.....	.....	.....	2.82	1,867.42	.....	.....
.....	.....	75.75	5.53	.....	9.65	2,111.36	.....	.....
.....	.....	27.60	.....	.....	.....	21,828.16	.....	.....
.....	.....	202.00	8.20	450.00	66.13	16,149.47	.....	.....
.....	.....	.....	.....	.....	175.40	522.43	.....	.....
.....	.....	.....	.....	.....	31.45	5,012.68	.....	.....
.....	.....	.....	.....	.....	11.00	196.02	2.00	.....
.....	.....	.....	.....	.....	.....	227.19	.....	.....
.....	.....	.....	.....	.....	43.75	46.99	.....	.....
.....	.....	.....	.....	.....	.....	978.35	.....	.....
.....	.....	.....	.....	.....	.....	448.77	.....	.....
.....	.....	.....	.....	.....	5.00	1,849.98	.....	.....
.....	.....	.....	.....	.....	.....	812.30	.....	.....
.....	.....	.....	.....	.....	9.75	1,250.00	.....	.....
.....	.....	.....	.....	.....	.....	1,628.36	.....	.....
.....	.....	.....	.....	.....	2.75	905.39	.....	.....
.....	.....	.....	.....	.....	.....	1,461.91	.....	.....
.....	.....	.....	.....	.....	.....	2,708.91	.....	.....
.....	.....	.....	.....	.....	.....	1,693.61	.....	.....
.....	.....	.....	.....	.....	.....	2,561.28	14.00	.....
.....	.....	.....	.....	.....	4.50	1,083.05	84.31	.....
6.00	.....	393.47	13.73	1,770.00	528.43	80,151.32	100.31	.....
2,233.40	.....	5.50	.....	540.00	731.82	44,665.94	40.00	.....
.....	.....	.....	8.66	.....	93.11	15,600.31	2.00	.....
.....	.....	7.25	.....	.....	38.52	34,514.32	.....	.....
.....	.....	.....	.....	.....	8.41	32,152.90	16.00	
.....	.....	.....	.....	900.00	1,200.00	14,822.10	.....	.....
.....	19.17	39.70	52.10	.....	49.08	27,773.15	.....	.....
.....	.....	15.12	6.00	900.00	36.18	5,585.36	.....	.....
.....	18.35	.....	.....	.....	1.10	171.65	.....	.....
.....	.....	.....	.....	.....	1,071.42	1,076.33	.....	.....
.....	.....	.....	.....	.....	.....	7.66	.....	.....
.....	.....	.....	.....	.....	.....	6.75	.....	.....
.....	.....	.....	.....	.....	13.70	47.19	.....	.....
.....	.....	.....	4.27	.....	212.61	283.00	.....	.....
.....	.....	.....	16.10	.....	8.00	36.40	.....	.....
.....	.....	.....	.....	.....	.....	2,864.28	.....	.....
.....	205.92	146.70	2.90	784.67	918.76	25,100.56	.....	.....
.....	.....	34.10	16.00	.....	50.16	356.33	.....	.....
.....	.....	1.20	2.40	.....	6.60	2,007.95	.....	.....
.....	.....	.....	.....	.....	.....	268.05	.....	.....
.....	.....	.....	7.30	.....	.....	293.71	.....	.....
.....	.....	217.00	.....	.....	14.37	495.65	.....	.....
.....	.....	20.00	18.00	.....	695.00	1,240.75	.....	.....
.....	34.95	32.50	.....	120.00	2.79	1,551.88	1.00	.....
.....	.....	.....	.....	.....	.....	127.49	.....	.....
.....	.....	.....	.....	.....	.....	12.86	.....	.....
.....	.....	.....	.....	.....	192.27	196.77	.....	.....

C.—*Statement showing in detail the amounts expended from the various*

Division, department, and post.	REGULAR SUPPLIES.					
	Forage and straw.	Fuel.	Heating and cooking apparatus, and repairs to same.	Illuminating supplies.	Stationery.	Advertising.
Department of the East—Cont'd.						
Madison Barracks, N. Y			$40.10	$18.09		
Plattsburg Barracks, N. Y	$667.50			5.62		
Fort Niagara, N. Y			370.95	5.79		
Fort McPherson, Ga	745.10		445.45	11.57		
In the field	789.11	$48.09				
Total	44,688.68	120,163.45	24,160.06	12,351.30	$794.22	$495.84
Department of the Missouri.						
Headquarters, Chicago, Ill	60,747.21	56,591.88	1,031.72	568.92	2,098.82	453.55
Fort Leavenworth, Kans	24,095.00	19,433.91	1,852.25	49.30	47.59	66.23
Fort Riley, Kans	30,548.34	20,090.15	1,299.73	58.12	101.58	38.75
Fort Wayne, Mich			596.33	13.11		
Fort Brady, Mich	215.46			6.48		
Fort Mackinac, Mich				2.60		
Fort Sheridan, Ill	1,432.00	112.00	21,891.04	79.48	5.05	41.34
Fort Leavenworth Military Prison, Kans			119.99	1.30	88.35	
Fort Reno, Okla	5,168.70	2,233.51		30.02		
Oklahoma, Okla	17.41			3.25		
Fort Supply, Ind. T	32.06	29.60		20.00		
Fort Sill, Okla	1,113.74	107.00		9.72		
In the field	717.06	52.19				
Total	124,086.98	98,650.24	26,791.06	842.30	2,341.39	599.87
Department of the Platte.						
Headquarters, Omaha, Nebr	148,579.23	124,213.83	3,665.03	21,029.86	1,335.13	411.44
Denver, Colo	740.44	900.00	6,585.40	1.50	77.46	29.05
Fort McKinney, Wyo	4,787.49	681.75		17.87		
Fort Robinson, Nebr	108.24	338.17		47.50		
Fort Washakie, Wyo	4,615.69	808.27		10.03	4.20	
Fort Niobrara, Nebr	353.77	104.00		23.11		
Fort Randall, S. Dak	2.90	17.56	197.00	8.94		
Fort Omaha, Nebr				20.30		
Fort Douglas, Utah	1,155.00		61.82	23.08		
Camp Pilot, Butte, Wyo				1.95		
Fort Du Chesne, Utah	1,397.34	86.37				
Fort D. A. Russell, Wyo	6.83	57.28		36.00		
Fort Logan, Colo	247.50			6.60		
Fort Lewis, Colo				1.30		
Fort Sidney, Nebr				14.60		
Bellevue Rifle Range, Nebr						
In the field	47.28	9.75				
Total	162,041.71	127,216.98	10,509.25	21,242.64	1,416.79	440.49
Department of Dakota.						
Headquarters, St. Paul, Minn	167,908.78	142,658.07	3,071.13	7,240.36	1,658.03	125.71
Helena, Mont	320.34	1,373.32				
Fort Custer, Mont	1,269.75	367.92		10.55		
Fort Meade, S. Dak	531.68	79.98	24.00	20.00		
Fort Missoula, Mont				6.75		
Fort Keogh, Mont	795.23	1.25		18.29		
Fort Yellowstone, Wyo	4.00			3.00		
Fort Sully, S. Dak	5.60			6.00		
Camp Poplar River, Mont						
Fort Pembina, N. Dak				6.88		
Fort Buford, N. Dak				9.00		
Fort Yates, N. Dak				4.50		
Fort Assiniboine, Mont	181.87			5.20		
Fort Snelling, Minn	516.94	108.80		8.40		
Fort Bennett, S. Dak						
Fort Shaw, Mont						
Fort A. Lincoln, N. Dak						
Total	171,534.19	144,589.34	3,095.13	7,338.93	1,658.03	125.71

appropriations made for the Quartermaster's Department, etc.—Continued.

REGULAR SUPPLIES.							INCIDENTAL EXPENSES.	
Printing.	Post school-books and supplies.	Tableware and mess furniture.	Garden utensils and agricultural implements.	Employés.	All expenses not otherwise enumerated.	Total amounts.	Postage.	Printing.
.....	.....	.....	.....	$1,345.00	.....	$1,403.19	$4.00	.....
.....	.....	.....	.....	.....	$2.82	675.94	.....	.....
.....	.....	.....	.....	.....	2.40	379.14	.....	.....
.....	$67.47	.....	$5.10	.....	13.06	1,287.75	1.00	.....
.....	.....	.....	.....	.....	.....	837.20	.....	.....
$2,233.40	345.86	$519.07	138.83	4,589.67	5,362.18	215,842.56	64.00	.....
3,606.26	467.68	52.75	83.79	.....	1,109.16	126,811.74	9.00	.....
1,848.52	350.60	.....	159.62	3,358.50	1,100.05	52,361.57	.....	.....
9.50	183.35	136.80	43.87	5,543.32	845.37	58,898.88	5.00	.....
.....	1.60	.....	.....	.....	86.30	697.34	2.00	.....
.....	.....	.....	.....	.....	.....	221.94	.....	.....
.....	.....	.....	.....	.....	.....	2.60	1.00	.....
.....	.....	.....	.....	2,106.33	126.35	25,793.59	2.00	.....
.....	.....	24.95	.....	2,100.00	73.62	2,408.21	.....	.....
.....	.....	.....	.75	802.50	.....	8,235.48	15.00	.....
.....	.....	.....	.....	.....	.....	20.66	.....	.....
.....	.....	.....	.....	.....	.....	81.66	3.00	.....
.....	.....	.....	.....	825.00	150.00	2,205.46	.....	.....
.....	.....	.....	.....	.....	.....	769.25	.....	.....
5,464.28	1,003.23	214.50	288.03	14,735.65	3,490.85	278.508.38	37.00	.....
3,056.80	648.70	13.65	76.59	6,803.48	1,082.88	310,916.62	.....	.....
.....	.....	.....	14.40	.....	888.55	9,236.80	.....	.....
.....	.....	.....	.....	.....	38.00	5,525.11	2.00	.....
.....	.....	.....	.....	852.50	.....	1,346.41	5.00	.....
.....	.....	.....	.....	.....	.....	5,438.19	4.00	.....
.....	.....	.....	.....	.....	.....	480.88	10.00	.....
.....	.....	.....	.....	.....	45.00	271.40	.....	.....
.....	.....	.....	.....	.....	.....	20.30	9.00	.....
.....	.....	.....	.....	.....	.....	1,239.90	2.00	.....
.....	.....	.....	.....	.....	.....	1.95	.....	.....
.....	.....	.....	.....	.....	.....	1,483.71	.....	.....
.....	.....	.....	.....	.....	.....	100.11	.....	.....
.....	.....	.....	6.75	.....	.....	260.85	.....	.....
.....	.....	.....	.....	.....	.....	1.30	2.00	.....
.....	.....	.....	.....	.....	.....	14.60	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	57.03	.....	.....
3,056.80	648.70	13.65	97.74	7,655.98	2,054.43	336,395.16	34.00	.....
2,401.09	608.26	40.48	147.40	1,965.00	1,027.86	328,852.17	30.00	.....
.....	.....	.....	.....	.....	.....	1,693.66	.....	.....
.....	.....	.....	.....	.....	167.50	1,815.72	.....	.....
.....	.....	.....	.....	.....	100.00	755.66	.....	.....
.....	.....	.....	.....	.....	.....	6.75	.....	.....
.....	.....	.....	.....	900.00	.....	1,714.77	.....	.....
.....	.....	.....	.....	.....	.....	7.00	1.60	.....
.....	.....	.....	.....	.....	.....	11.60	1.00	.....
.....	.....	.....	.....	.....	.....	6.88	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	30.00	39.00	5.00	.....
.....	.....	.....	.....	.....	.....	4.50	10.00	.....
.....	.....	.....	.....	.....	37.50	224.57	.....	.....
.....	.....	.....	.....	1,800.00	.....	2,434.14	3.00	.....
.....	.....	.....	.....	.....	4.00	4.00	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
2,401.09	608.26	40.48	147.40	4,665.00	1,366.86	337,570.42	50.60	.....

C.—*Statement showing in detail the amounts expended from the various*

Division, department, and post.	REGULAR SUPPLIES.					
	Forage and straw.	Fuel.	Heating and cooking apparatus, and repairs to same.	Illuminating supplies.	Stationery.	Advertising.
Department of Texas.						
Headquarters, San Antonio, Tex.	$118,682.34	$40,570.88	$720.19	$4,077.94	$731.11	$91.99
Eagle Pass, camp at, Tex				1.30		
Fort Hancock, Tex				1.30		
Fort Bliss, Tex				9.10		
Fort Sam Houston, Tex				26.29		
Camp Pena Colorado, Tex				3.88		
Fort Ringgold, Tex				4.70		
Fort McIntosh, Tex				6.50		
Fort Clark, Tex				18.00		
Fort Brown, Tex				3.25		
In the field	68.64	13.33				
Total	118,750.98	40,584.21	720.19	4,152.26	731.11	91.99
Department of California.						
Headquarters, San Francisco, Cal	67,341.59	39,128.91		111.40	4.00	158.78
Presidio of San Francisco, Cal				24.18		
Fort Mason, Cal				9.68		
Alcatraz Island, Cal				18.30		
Angel Island, Cal				11.52		
Fort Gaston, Cal	1,456.33			3.01		
Benicia Barracks, Cal				7.26		
Fort Bidwell, Cal	210.57			3.36		
In the field	687.44	180.15				
Total	69,695.93	39,309.06		188.71	4.00	158.78
Department of Arizona.						
Headquarters, Los Angeles, Cal.	266,054.65	54,002.53	93.54	970.90	2,143.12	1,690.65
Whipple Barracks, Ariz	95.51			11.25		
Fort Huachuca, Ariz	79.39	4.70		14.98		
Fort Wingate, N. Mex	13.28			7.26		
Fort Bayard, N. Mex	1,165.01	45.01		21.04		
Fort Stanton, N. Mex	2.00	14.00		5.83		
San Carlos, Ariz				10.38		
Fort Apache, Ariz	4,993.66	3.00		4.50		
Fort Grant, Ariz	1,019.26	64.10		11.44		
Fort Bowie, Ariz	265.42	8.00		12.96		
San Diego Barracks, Cal				3.24		
Fort Marcy, N. Mex			366.25	7.27		
Total	273,688.18	54,141.34	459.79	1,081.05	2,143.12	1,690.65
Department of the Columbia.						
Headquarters, Vancouver Barracks, Wash	24,121.60	16,071.79	59.00	33.28	3,854.76	40.31
Portland, Oregon	45,314.81	30,609.45	1,557.24	6.70	77.20	
Fort Walla Walla, Wash				9.70		
Boise Barracks, Idaho	448.29			17.07		
Fort Sherman, Idaho	518.28	35.38	12.15	11.78		
Fort Townsend, Wash	18.48		17.51	4.03		
Fort Canby, Wash			83.25	4.84		
Fort Spokane, Wash	332.61	29.00		12.09		
In the field	168.20					
Total	70,922.27	46,745.62	1,729.15	99.49	3,931.96	40.31

appropriations made for the Quartermaster's Department, etc.—Continued.

REGULAR SUPPLIES.							INCIDENTAL EXPENSES.	
Printing.	Post school-books and supplies.	Tableware and mess furniture.	Garden utensils and agricultural implements.	Employés.	All expenses not otherwise enumerated.	Total amounts.	Postage.	Printing.
$2,359.45	$34.30	$889.28	$24.35	$4,445.33	$1,813.91	$174,441.07	$14.50	.....
.....	.....	.....	.....	.....	.....	1.30	3.30	.....
.....	.....	.....	.....	.....	.....	1.30	.....	.....
.....	.....	.....	.....	.....	.....	9.10	1.00	.....
.....	.....	.....	.....	320.00	8.00	354.29	.....	.....
.....	.....	.....	.....	.....	.....	3.88	.....	.....
.....	.....	.....	.....	.....	.....	4.70	1.00	.....
.....	.....	.....	.....	.....	.....	6.50	1.00	.....
.....	.....	.....	.....	675.00	.....	693.00	3.00	.....
.....	.....	.....	.....	.....	.....	3.25	2.00	.....
.....	.....	.....	.....	.....	.....	81.97	.....	.....
2,359.45	34.30	889.28	24.35	5,440.33	1,821.91	175,600.36	25.80	.....
4,932.43	.....	.....	.....	1,180.74	43.35	112,901.20	20.00	.....
.....	.....	.....	.....	1,509.96	.....	1,624.14	.....	.....
.....	.....	.....	.....	600.00	.....	609.68	.....	.....
.....	.....	.....	.....	.....	.....	18.30	.....	.....
.....	.....	.....	.....	.....	49.00	60.52	1.50	.....
.....	.....	.....	.....	.....	.....	1,459.34	.....	.....
.....	.....	.....	.....	.....	.....	7.26	2.00	.....
.....	.....	.....	.....	.....	.....	213.93	3.00	.....
.....	.....	.....	.....	.....	.....	867.59	.....	.....
4,932.43	.....	.....	.....	3,380.70	92.35	117,761.96	26.50	.....
5,579.04	238.86	.....	.....	.....	396.31	331,169.60	40.00	.....
.....	.....	.....	.....	60.00	.....	166.76	3.00	.....
.....	.....	.....	.....	720.00	.....	819.07	2.00	.....
.....	.....	.....	.....	500.00	.....	520.54	10.00	.....
.....	.....	.....	.....	720.00	6.00	1,957.06	6.00	.....
.....	.....	.....	.....	60.00	.....	81.83	7.00	.....
.....	.....	.....	.....	720.00	.....	730.38	6.00	.....
.....	.....	.....	.....	720.00	30.00	5,751.16	.....	.....
.....	.....	.....	.....	686.00	.....	1,780.80	.....	.....
.....	.....	.....	.....	60.00	.....	346.38	10.00	.....
.....	.....	.....	2.00	.....	51.00	56.24	5.00	.....
.....	.....	.....	.....	.....	1,289.40	1,662.92	5.00	.....
5,579.04	238.86	.....	2.00	4.246.00	1,772.71	345,042.74	94.00	.....
2,537.89	.....	.....	16.10	4,317.33	369.75	51,421.81	28.00	.....
.....	199.32	134.30	32.95	.....	396.49	78,328.46	.....	.....
.....	.....	.....	.....	.....	297.51	307.21	.....	.....
.....	.....	.....	.....	.....	199.50	664.86	.....	.....
.....	.....	.....	.....	.....	10.00	587.59	.....	.....
.....	.....	.....	.....	480.00	.....	520.02	.....	.....
.....	.....	.....	.....	300.00	5.70	393.79	1.00	.....
.....	.....	.....	.....	278.56	.....	652.26	2.00	.....
.....	.....	.....	.....	.....	.....	168.20	.....	.....
2,537.89	199.32	134.30	49.05	5,375.89	1,278.95	133,044.20	31.00	.....

C.—*Statement showing in detail the amounts expended from the various*

Division, department, and post.	INCIDENTAL EXPENSES.					
	Advertising.	Extra-duty pay of enlisted men.	Civilian employés.	Shoeing animals, including materials.	Recovery of horses and mules.	Interments of officers and enlisted men.
General depots.						
New York, N. Y	$138.60	$68.25	$19,808.99	$1,289.37		$15.00
Philadelphia, Pa			23,208.64	199.10		
Washington, D. C			23,373.20	737.37		80.75
Jeffersonville, Ind	157.42		19,976.54	5,376.19		1,738.80
San Francisco, Cal			15,130.58	411.75		
St. Louis, Mo			13,343.42	125.23		
Total	296.02	68.25	114,841.37	8,139.01		1,834.55
Independent posts.						
Atlanta, Ga			5,880.00	11.00		15.00
Columbus Barracks, Ohio		1,514.95	2,219.12			55.00
Sault Ste. Marie, Mich			2,272.00			
Davids Island, N. Y. Harbor		2,226.35	1,599.96			
West Point, N. Y		7,495.38	3,000.00			36.90
Jefferson Barracks, Mo		2,428.10	2,843.30			15.00
Willets Point, N Y		1,925.00				10.00
Hot Springs, Ark			2,600.04	78.30		
El Paso, Tex			1,466.63			
U. S. Powder Depot, N. J						
Fort Snelling, Ordnance Depot, Minn		305.90	420.00			
Augusta Arsenal, Ga	6.40					
Indianapolis Arsenal, Ind						
National Armory, Springfield, Mass			300.00			
Columbia Arsenal, Tenn	39.20					15.00
Kennebec Arsenal, Me						
Watervliet Arsenal, N. Y		108.00				
Allegheny Arsenal, Pa						10.00
Frankford Arsenal, Pa						10.00
Benicia Arsenal, Cal		109.90		14.00		
Watertown Arsenal, Mass		127.40				
Rock Island Arsenal, Ill		105.70				
U. S. legations at London, Paris, Berlin, Vienna, St. Petersburg, and Dusseldorf						
Total	45.60	16,346.68	22,601.05	103.30		166.90
Department of the East.						
Headquarters, Governors Island, N. Y		1,265.20	20,927.07	5.40		
Baltimore, Md			3,999.96			
Buffalo, N. Y			3,866.00	16.00		
Boston, Mass			3,903.00	27.09		
Fort Monroe, Va		1,595.39	3,029.07			
New Orleans, La			4,019.16	4.00		
Washington Barracks, D. C		1,323.55		142.00		
Newport Barracks, Ky		519.10		90.85		
Jackson Barracks, La		562.75		82.38		10.00
St. Francis Barracks, Fla		583.60				
Fort Warren, Mass		695.20				
Mount Vernon Barracks, Ala		851.55	1,200.00	59.75		
Fort Preble, Me		480.00		60.00		
Fort Trumbull, Conn		542.40		76.34		
Fort Adams, R. I		1,052.10		153.70		
Fort Thomas (and Newport), Ky		691.60	1,961.63	141.05		
Fort Myer, Va		851.10				10.00
Fort Hamilton, N. Y		959.20		622.13		
Fort Wood, N. Y		454.10				
Fort McHenry, Md		855.85		84.84		
Fort Schuyler, N. Y		595.50		163.79		
Fort Wadsworth, N. Y		907.50		150.00		10.00
Fort Porter, N. Y		672.40		44.60		
Fort Ontario, N. Y		470.95		42.15		
Key West Barracks, Fla			171.83			
Fort Barrancas, Fla		572.10				
Madison Barracks, N. Y		1,321.05	2,366.09			
Plattsburg Barracks, N. Y		519.25	600.00	44.00		

appropriations made for the Quartermaster's Department, etc.—Continued.

INCIDENTAL EXPENSES.						CAVALRY AND ARTILLERY HORSES.	
Telegraph and telephone services.	Subscription to newspapers.	Office furniture.	Apprehension and delivery of deserters.	All expenses not otherwise enumerated.	Total amounts.	Purchase of cavalry and artillery horses.	Advertising.
$668.58	$3,791.40	$629.56	$1,260.00	$6,802.14	$34,520.89	$758.00	.....
396.75	.....	77.96	540.00	435.99	24,915.28	.....	.....
312.25	4.75	401.24	180.00	1,102.25	26,201.81	.....	.....
108.16	.....	5,629.27	.....	11,116.46	44,132.59	.....	.....
131.60	.....	750.56	.....	497.06	16,960.55	.....	.....
200.00	.....	313.66	1,410.00	666.39	16,098.40	23,873.25	$61.95
1,817.34	3,796.15	7,802.25	3,390.00	20,620.29	162,829.52	24,631.25	61.95
96.00	.....	6.00	.....	1,507.50	7,515.50	.....	.....
72.00	.....	.....	420.00	110.10	4,391.17	.....	.....
.....	.....	.....	.....	3.50	2,275.50	.....	.....
60.00	.....	2.25	.....	50.50	3,939.06	.....	.....
.....	.....	4.00	.....	4.50	10,540.78	.....	.....
.....	6.00	.....	.....	767.12	6,059.52	.....	.....
.....	.....	.....	.....	10.00	1,945.00	.....	.....
.....	.....	.....	.....	2.50	2,680.84	.....	.....
.....	.....	.....	.....	3.00	1,471.63	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.50	726.40	.....	.....
.....	.....	.....	.....	.....	6.40	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	300.00	.....	.....
.....	.....	.....	.....	.....	54.20	.....	.....
.....	.....	1.00	.....	5.75	6.75	.....	.....
.....	.....	.....	360.00	40.50	508.50	.....	.....
.....	.....	.....	.....	.....	10.00	.....	.....
.....	.....	.....	.....	.50	10.20	.....	.....
.....	.....	.....	.....	11.00	134.90	.....	.....
.....	.....	1.00	.....	1.50	129.90	.....	.....
.....	.....	.....	.....	25.00	144.70	.....	.....
.....	.....	.....	.....	128.10	212.41	.....	.....
228.00	6.00	14.25	780.00	2,671.57	43,063.66	.....	.....
84.05	7.50	49.50	2,130.00	82.50	24,591.22	.....	.....
100.00	.....	2.25	720.00	24.40	4,848.61	.....	.....
.....	5.00	9.00	60.00	.....	3,956.00	.....	.....
.....	5.50	69.00	660.00	115.28	4,795.87	2,265.00	.....
30.00	.....	.....	120.00	83.70	4,858.16	.....	.....
.....	.....	6.00	.....	47.75	4,076.91	.....	.....
.....	.....	10.20	.....	5.50	1,481.25	.....	.....
.....	.....	7.00	420.00	3.50	1,040.45	.....	.....
130.24	.....	.....	.....	65.25	850.62	.....	.....
.....	.....	4.75	60.00	.....	648.35	.....	.....
.....	.....	6.00	.....	15.00	716.20	.....	.....
.....	.....	.....	60.00	.....	2,171.30	.....	.....
84.00	.....	21.50	60.00	.....	705.50	.....	.....
.....	.....	.....	60.00	1.25	679.99	.....	.....
.....	.....	.....	480.00	262.00	1,947.80	.....	.....
39.50	.....	.....	.....	351.85	3,185.63	.....	.....
150.00	.....	.....	.....	132.96	1,148.06	.....	.....
.....	.....	1.75	.....	36.00	1,619.08	.....	.....
.....	.....	.....	.....	159.00	613.10	.....	.....
.....	.....	.....	.....	1.85	942.54	.....	.....
.....	.....	.....	.....	.....	759.29	.....	.....
.....	.....	.....	.....	.....	1,067.50	.....	.....
.....	.....	.....	360.00	46.51	1,124.51	.....	.....
.....	.....	1.00	60.00	.....	574.10	.....	.....
.....	.....	.....	.....	.....	171.83	.....	.....
.....	.....	.....	180.00	.....	752.10	.....	.....
.....	10.00	97.01	300.00	2,516.31	6,614.46	.....	.....
.....	.....	7.00	.....	1,159.63	2,329.88	.....	.....

C.—*Statement showing in detail the amounts expended from the various*

Division, department, and post.	INCIDENTAL EXPENSES.					
	Advertising.	Extra-duty pay of enlisted men.	Civilian employés.	Shoeing animals, including materials.	Recovery of horses and mules.	Interments of officers and enlisted men.
Department of the East—Cont'd.						
Fort Niagara, N. Y.		$840.11		$120.00		
Fort McPherson, Ga.		1,175.90				
In the field						
Total		20,361.45	$46,043.81	2,130.07		$30.00
Department of the Missouri.						
Headquarters, Chicago, Ill.	$3.42		28,422.11	513.31		15.00
Fort Leavenworth, Kans.		2,330.20	7,671.07			6.75
Fort Riley, Kans.		2,345.17	5,430.66		$5.00	
Fort Wayne, Mich.		994.85		131.41		20.00
Fort Brady, Mich.		565.10		118.40		
Fort Mackinac, Mich.		512.63				
Fort Sheridan, Ill.		1,743.45	3,194.00	224.18		17.00
Fort Leavenworth Military Prison, Kans.		128.10	1,800.00			
Fort Reno, Okla.		1,455.55	1,240.00	70.90		20.00
Oklahoma, Okla.		854.33		60.00		10.00
Fort Supply, Ind. T.		1,319.13	1,161.20	17.00		
Fort Sill, Okla.		1,229.15	1,100.00			
In the field				10.15		
Total	3.42	13,477.66	50,019.04	1,145.35	5.00	88.75
Department of the Platte.						
Headquarters, Omaha, Nebr.	52.84		26,868.64	3.45	50.00	5.05
Denver, Colo.			3,833.33	27.30		75.00
Fort McKinney, Wyo.		1,558.50	1,800.00	2.25	25.00	
Fort Robinson, Nebr.		1,552.14	1,319.24	38.25	50.00	
Fort Washakie, Wyo.		805.95	680.00	25.70		19.25
Fort Niobrara, Nebr.		1,997.65		8.00		
Fort Randall, S. Dak.		627.35				75.00
Fort Omaha, Nebr.		2,164.70		404.60		20.00
Fort Douglas, Utah		1,974.90		10.00		
Camp Pilot, Butte, Wyo.		494.50		55.96		
Fort Du Chesne, Utah		1,747.60	900.00			
Fort D. A. Russell, Wyo.		1,849.80				
Fort Logan, Colo.		1,432.05		4.00		
Fort Lewis, Colo.		240.85				
Fort Sidney, Nebr.		888.85				15.00
Bellevue Rifle Range, Nebr.		35.35				
In the field				9.70		
Total	52.84	17,370.19	35,401.21	589.21	125.00	209.30
Department of Dakota.						
Headquarters, St. Paul, Minn.		26.60	18,648.99	143.48		75.00
Helena, Mont.			2,400.00			
Fort Custer, Mont.		2,368.60	6,353.96	2.00	25.00	
Fort Meade, S. Dak.		2,006.12		32.98	40.00	
Fort Missoula, Mont.		1,285.00				
Fort Keogh, Mont.		2,100.62	1,405.00	74.50	50.00	75.00
Fort Yellowstone, Wyo.		351.95	980.80			4.00
Fort Sully, S. Dak.		1,182.82				
Camp Poplar River, Mont.		574.40				
Fort Pembina, N. Dak.		355.10		41.50		
Fort Buford, N. Dak.		1,395.80	912.50			
Fort Yates, N. Dak.		1,884.40	660.00		25.00	
Fort Assiniboine, Mont.		1,638.15	749.66		75.00	
Fort Snelling, Minn.		1,960.90	1,217.00	1.40		
Fort Bennett, S. Dak.		178.15				
Fort Shaw, Mont.		75.40	229.43			
Fort A. Lincoln, N. Dak.		87.00				
Total		17,471.01	29,557.34	295.86	215.00	154.00
Department of Texas.						
Headquarters, San Antonio, Tex.			19,367.35	62.50	60.00	15.50
Eagle Pass, camp at, Tex.		340.65		94.00		
Fort Hancock, Tex.		446.70				

appropriations made for the Quartermaster's Department, etc.—Continued.

INCIDENTAL EXPENSES.						CAVALRY AND ARTILLERY HORSES.	
Telegraph and telephone services.	Subscription to newspapers.	Office furniture.	Apprehension and delivery of deserters.	All expenses not otherwise enumerated.	Total amounts.	Purchase of cavalry and artillery horses.	Advertising.
$8.30					$968.41		
12.50		$1.50	$8.70	$558.05	2,618.95		
				.55	.55		
638.59	$28.00	293.46	6,600.00	5,668.84	81,858.22	$2,265.00	
388.20		614.74	1,320.00	2,214.57	33,500.35		
210.26		244.76	900.00	411.95	11,774.99		
300.00		4.00	420.00	239.55	8,749.38	1,354.80	
			240.00	583.56	1,971.82		
			30.00		713.50		
				3.00	516.63		
4 50			120.00	353.76	5,658.89		
50.00				2.75	1,980.85		
			60.00	217.25	3,078.70		
			60.00	10.00	994.33		
			60.00	99.05	2,659.38		
					2,329.15		
					10.15		
952.96		863.50	3.210.00	4,135.44	73,938.12	1,354.80	
451.08		496.27	780.00	1,659.09	30,366.42	7,106.14	$57.50
80.00	5.00		660.00	1,838.25	6,518.88		
			120.00	65.50	3,573.25		
			180.00	84.70	3,229.33		
			60.00	9.00	1,603.90		
202.50		1.50	60.00	304.85	2,584.50		
				9.75	712.10		
144.00		103.00	300.00	5.00	3,150.30		
168.00		6.00	300.00	155.00	2,615.90		
		1.75		2.50	554.71		
				16.50	2,664.10		
144.00		4.50	60.00	44.00	2,102.30		
			60.00	122.07	1,620.12		
					242.85		
		6.00			909.85		
					35.35		
				.35	10.05		
1,189.58	5.00	621.02	2,580.00	4,316.56	62,493.91	7,106.14	57.50
483.28	10.00	1,259.39		1,265.31	21,942.05	6,049.45	66.23
		88.50			2,488.50		
40.00		4.50		85.50	4,879.56		
300.00		10.00	270.00		2,659.10		
72.00			120.00	44.44	1,521.44		
			360.00	135.50	4,200.62		
				87.50	1,425.85		
			60.00	1.00	1,244.82		
				12.00	586.40		
					396.60		
				17.25	2,330.55		
			60.00	25.50	2,664.90		
				70.00	2,532.81		
200.00		6.00	900.00	118.25	4,406.55		
			60.00		238.15		
					304.83		
					87.00		
1,095.28	10.00	1,368.39	1,830.00	1,862.25	53,909.73	6,049.45	66.23
357.82		468.30	1,890.00	2,213.57	24,449.54	12,755.70	94.45
				2.00	439.95		
					446.70		

C.—*Statement showing in detail the amounts expended from the various*

Division, department, and post.	INCIDENTAL EXPENSES.					
	Advertising.	Extra-duty pay of enlisted men.	Civilian employés.	Shoeing animals, including materials.	Recovery of horses and mules.	Interments of officers and enlisted men.
Department of Texas—Cont'd.						
Fort Bliss, Tex		$865.10				
Fort Sam Houston, Tex		1,729.15		$55.51		$95.00
Camp Pena Colorado, Tex		334.10				
Fort Ringgold, Tex		718.55				
Fort McIntosh, Tex		1,044.96				
Fort Clark, Tex		1,498.95				
Fort Brown, Tex		525.25				
In the field						
Total		7,503.41	$19,367.35	212.01	$60.00	110.50
Department of California.						
Headquarters, San Francisco, Cal			14,660.03	81.75		
Presidio of San Francisco, Cal		2,477.50	1,728.96	84.00		20.00
Fort Mason, Cal		998.20		198.50		
Alcatraz Island, Cal		1,036.95		240.00		
Angel Island, Cal		1,632.75		102.90		
Fort Gaston, Cal		592.45				
Benicia Barracks, Cal		782.75		193.82		10.00
Fort Bidwell, Cal		614.50		198.50		
In the field		8.00		24.75		
Total		8,143.10	16,388.99	1,019.22		30.00
Department of Arizona.						
Headquarters, Los Angeles, Cal			18,656.35	468.92	25.00	75.00
Whipple Barracks, Ariz		1,075.90			25.00	
Fort Huachuca, Ariz		1,310.60				75.00
Fort Wingate, N. Mex		1,742.60	900.00	17.00		
Fort Bayard, N. Mex		1,839.00		2.00		
Fort Stanton, N. Mex		849.55		1.50		
San Carlos, Ariz		1,561.30	900.00	2.00		
Fort Apache, Ariz		2,095.65	900.00	2.00		
Fort Grant, Ariz		1,422.85		15.00		
Fort Bowie, Ariz		1,007.15		2.50		
San Diego Barracks, Cal		334.30		152.00		
Fort Marcy, N. Mex		576.90		103.75		
Total		13,815.80	21,356.35	766.67	50.00	150.00
Department of the Columbia.						
Headquarters, Vancouver Barracks, Wash		2,710.84	10,549.45			55.00
Portland, Oregon			3,743.37	56.35		
Fort Walla Walla, Wash		1,051.51				
Boise Barracks, Idaho		768.05		2.75		75.00
Fort Sherman, Idaho		1,290.60		33.00		
Fort Townsend, Wash		662.15		207.02		
Fort Canby, Wash		912.90		96.20		
Fort Spokane, Wash		919.20				75.00
In the field				12.00		
Total		8,315.26	14,292.82	407.32		205.00

appropriations made for the Quartermaster's Department, etc.—Continued.

INCIDENTAL EXPENSES.						CAVALRY AND ARTILLERY HORSES.	
Telegraph and telephone services.	Subscription to newspapers.	Office furniture.	Apprehension and delivery of deserters.	All expenses not otherwise enumerated.	Total amounts.	Purchase of cavalry and artillery horses.	Advertising.
$90.00				$32.00	$988.10		
48.00		$10.80		9.00	1,947.46		
					334.10		
				170.00	889.55		
55.00		4.50		811.27	1,916.73		
120.00					1,621.95		
7.33				14.50	549.08		
678.15		483.60	$1,890.00	3,252.34	33,583.16	$12,755.70	$94.45
351.52		88.05	1,110.00	212.00	16,473.35	4,816.80	48.35
		5.00		460.00	4,725.46		
				34.30	1,226.00		
					1,276.95		
					1,737.15		
		35.00			627.45		
77.72			60.00	2.00	1,128.29		
				17.50	833.50		
					32.75		
429.24		128.05	1,170.00	725.80	28,060.90	4,816.80	48.35
269.84		1,191.37	480.00	931.88	22,138.36		
					1,103.90		
				14.25	1,401.85		
145.13				23.00	2,837.73		
				9.50	1,856.50		
				40.95	899.00		
			60.00	7.00	2,536.30		
				351.20	3,348.85		
			60.00	9.00	1,506.85		
		3.00	120.00	4.00	1,146.65		
48.00		1.50	60.00	70.85	671.65		
				10.50	696.15		
462.97		1,195.87	780.00	1,472.13	40,143.79		
567.26		132.24	360.00	389.37	14,792.16	5,757.70	18.65
90.00	$5.00	284.20	720.00	286.94	5,185.86		
139.78				9.00	1,200.29		
60.00					905.80		
		3.50		15.00	1,342.10		
79.60		4.00			952.77		
		5.00		76.76	1,091.86		
					996.20		
					12.00		
936.64	5.00	428.94	1,080.00	777.07	26,479.04	5,757.70	18.65

C.—*Statement showing in detail the amounts expended from the various*

Division, department, and post.	CAVALRY AND ARTILLERY HORSES.		TRANSPORTATION OF THE ARMY.			
	All expenses not otherwise enumerated.	Total amounts.	Railroad transportation.	Water transportation.	Expressage.	Wagon transportation.
General depots.						
New York, N. Y		$758.00	$61,625.51	$13,896.73	$181.45	$3,206.92
Philadelphia, Pa			2,628.42	325.25	208.56	1,123.00
Washington, D. C			9,200.12	1,667.94	243.71	1,447.31
Jeffersonville, Ind			21,094.15	24.87	42.89	1,857.10
San Francisco, Cal			7.196.81	1,475.62	2,735.87	5,151.61
St. Louis, Mo	$1,800.00	25,735.20	39,886.69	68.25	415.17	2,927.97
Total	1,800.00	26,493.20	141,631.70	17,458.66	3,827.67	15,713.91
Independent posts.						
Atlanta, Ga						31.90
Columbus Barracks, Ohio			14,148.02	130.67		9.35
Sault de Ste. Marie, Mich				1,008.16		677.00
Davids Island, N. Y. Harbor						
West Point, N. Y					11.15	
Jefferson Barracks, Mo			8.00			
Willets Point, N. Y						
Hot Springs, Ark						
El Paso, Tex						4.50
U. S. Powder Depot, N. J						11.78
Fort Snelling, Ordnance Depot, Minn						8.75
Augusta Arsenal, Ga						66.56
Indianapolis Arsenal, Ind						
National Armory, Springfield, Mass						186.00
Columbia Arsenal, Tenn						47.72
Kennebec Arsenal, Me						53.25
Watervliet Arsenal, N. Y						625.58
Allegheny Arsenal, Pa						128.78
Frankford Arsenal, Pa			30.00			318.35
Benicia Arsenal, Cal						339.62
Watertown, Arsenal, Mass						955.81
Rock Island Arsenal, Ill						1,923.72
U. S. legations at London, Paris, Berlin, Vienna, St. Petersburg, and Dusseldorf						
Total			14,186.02	1,138.83	11.15	5,388.67
Department of the East.						
Headquarters, Governors Island, N. Y						
Baltimore Md			19,542.07	943.99	6.25	383.65
Buffalo, N. Y			1,301.02	1,386.91		271.00
Boston, Mass	35.00	2,300.00	6,358.32	1,204.92	18.73	654.20
Fort Monroe, Va				149.00		423.28
New Orleans, La			5,104.73	2,291.39	38.69	1,226.20
Washington Barracks, D. C						
Newport Barracks, Ky						
Jackson Barracks, La						
St. Francis Barracks, Fla						183.46
Fort Warren, Mass						
Mount Vernon Barracks, Ala						
Fort Preble, Me						
Fort Trumbull, Conn						
Fort Adams, R. I				90.00		1,085.60
Fort Thomas (and Newport), Ky			5.00			572.63
Fort Myer, Va						
Fort Hamilton, N. Y						
Fort Wood, N. Y						
Fort McHenry, Md			50.00			
Fort Schuyler, N. Y						
Fort Wadsworth, N. Y						
Fort Porter, N. Y						100.00
Fort Ontario, N. Y						
Key West Barracks, Fla						
Fort Barrancas, Fla				2,404.50	10.00	
Madison Barracks, N. Y						24.90

appropriations made for the Quartermaster's Department, etc.—Continued.

TRANSPORTATION OF THE ARMY.								
Stage transportation.	Civilian employés, pay of.	Extra-duty pay of enlisted men.	Vessels—purchasing, chartering, operating, and maintaining.	Means of transportation—purchasing and repairing wagons, carts, etc.	Animals—purchase, stabling, etc., of.	Harness—purchase and repair of.	Water supply and sewerage.	Wharves and bridges.
.....	$13,475.79	.....	$35,650.99	$845.79	$744.00	$171.32	$4,389.46	$11,149.92
.....	32,214.19	.....	.....	139.55	.....	68.00	328.70	.....
$4.00	16,549.98	.....	.....	2,028.10	891.66	1,312.08	5,683.54	.....
.....	23,612.88	.....	.....	3,951.01	.....	1,180.55	949.24	.....
2,024.67	7,119.96	.....	587.42	1,221.72	.....	386.54	6,860.90	.....
.....	12,851.91	.....	.....	709.73	13,773.10	40.62	3,272.52	.....
2,028.67	105,824.71	.....	36,238.41	8,895.90	15,408.76	3,159.11	21,484.36	11,149.92
.....	3,362.76	.....	.....	3.97	106.67	.....	1,831.77	.....
.....	.....	$1,222.60	.....	177.75	.....	3.00	3,728.21	.....
.....	630.00	.....	.....	30.15	.....	.40	1,367.87	.....
1.00	4,320.00	749.13	50.00	.....	.....	.....	4,477.38	2,030.08
.....	.....	3,859.05	.....	.....	.....	.....	.....	.....
.....	2,587.21	1,762.30	.....	7.85	.....	5.50	4,488.07	.....
.....	.....	1,823.45	.....	6.50	.....	.....	574.80	.....
.....	480.00	.....	.....	4.25	.....	7.75	737.21	.....
.....	1,225.00	.....	.....	4.00	15.00	2.55	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	433.00	.....	.....	.....	.....	.....	22.00	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	999.96	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
1.00	14,037.93	9,416.53	50.00	234.47	121.67	19.20	17,227.31	2,030.08
.....	14,246.71	152.00	9,234.30	441.27	.....	.....	5,387.60	995.00
.....	.....	.....	117.60	17.90	770.00	.....	147.69	.....
56.48	.....	.....	2,287.70	11.25	.....	.....	1,290.65	.....
3.00	.....	.....	13,706.65	9.84	15.00	.....	261.69	945.00
.....	5,520.00	829.95	799.28	8.80	.....	.....	980.50	3,769.38
.....	.....	.....	346.50	6.75	.....	8.00	1,190.93	.....
.....	360.00	631.20	.....	52.65	.....	.....	1,030.10	.....
.....	.....	229.25	.....	32.10	.....	1.25	195.54	.....
.....	990.00	357.80	.....	177.50	180.00	40.00	4,283.94	.....
.....	.....	400.20	.....	99.00	.....	.....	.....	.....
.....	.....	368.15	.....	.....	.....	.....	954.75	.....
.....	720.00	525.20	.....	5.00	.....	.....	1,804.43	.....
.....	840.00	406.20	.....	53.23	.....	2.00	608.94	.....
.....	.....	257.95	65.00	119.50	.....	.....	612.50	.....
.....	2,640.00	857.90	1,990.82	145.00	.....	.....	1,456.78	177.62
.....	3,693.00	803.60	38.00	91.75	300.00	60.00	12,192.00	.....
.....	1,722.19	630.25	.....	325.25	.....	.....	1,110.97	.....
.....	900.00	535.05	.....	.....	.....	.....	2,364.03	4,532.68
.....	.....	128.10	.....	.....	.....	.....	583.00	240.00
.....	.....	521.50	30.50	146.50	.....	.....	180.00	.....
.....	654.00	439.50	90.00	57.65	.....	.....	6,964.43	.....
.....	.....	524.85	.....	129.50	.....	26.25	2,019.04	.....
.....	.....	393.40	.....	19.00	.....	.....	2,053.88	.....
.....	.....	133.70	.....	.....	.....	.....	498.69	.....
.....	.....	.....	.....	.....	.....	.....	485.93	.....
.....	.....	318.75	.....	.....	.....	.....	100.00	47.00
.....	2,231.31	678.60	.....	.....	.....	.....	1,040.07	132.00

C.—*Statement showing in detail the amounts expended from the various*

Division, department, and post.	CAVALRY AND ARTILLERY HORSES.		TRANSPORTATION OF THE ARMY.			
	All expenses not otherwise enumerated.	Total amounts.	Railroad transportation.	Water transportation.	Express-age.	Wagon transportation.
Department of the East—Cont'd.						
Plattsburg Barracks, N. Y						
Fort Niagara, N. Y						$7.00
Fort McPherson, Ga			$15.00			2.50
In the field						
Total	$35.00	$2,300.00	32,876.14	$8,476.71	$73.67	4,934.42
Department of the Missouri.						
Headquarters, Chicago, Ill			62,043.45	26.00	341.94	20,067.40
Fort Leavenworth, Kans			78.48	2,077.70	107.02	862.19
Fort Riley, Kans		1,354.80				1,074.68
Fort Wayne, Mich						34.00
Fort Brady, Mich						
Fort Mackinac, Mich						105.00
Fort Sheridan, Ill						20.00
Fort Leavenworth Military Prison, Kans						
Fort Reno, Okla						959.24
Oklahoma, Okla						
Fort Supply, Ind. T						
Fort Sill, Okla						
In the field						
Total		1,354.80	62,121.93	2,103.70	448.96	23,122.51
Department of the Platte.						
Headquarters, Omaha, Nebr		7,163.64	21,364.13		811.74	18,503.30
Denver, Colo			97,075.19		323.67	45.40
Fort McKinney, Wyo						3.00
Fort Robinson, Nebr						3,999.86
Fort Washakie, Wyo						
Fort Niobrara, Nebr						1,014.75
Fort Randall, S. Dak						
Fort Omaha, Nebr						
Fort Douglas, Utah						944.27
Camp Pilot Butte, Wyo						
Fort Du Chesne, Utah						
Fort D. A. Russell, Wyo						
Fort Logan, Colo						
Fort Lewis, Colo						710.30
Fort Sidney, Nebr						190.61
Bellevue Rifle Range, Nebr						
In the field						
Total		7,163.64	118,439.32		1,135.41	25,411.49
Department of Dakota.						
Headquarters, St. Paul, Minn	510.00	6,625.68	61,387.87	3,307.94	605.65	11,388.33
Helena, Mont	64.00	64.00	80.48		159.93	4,151.25
Fort Custer, Mont						
Fort Meade, S. Dak						
Fort Missoula, Mont						
Fort Keogh, Mont						
Fort Yellowstone, Wyo						
Fort Sully, S. Dak						27.00
Camp Poplar River, Mont						
Fort Pembina, N. Dak						
Fort Buford, N. Dak						
Fort Yates, N. Dak						
Fort Assiniboine, Mont						
Fort Snelling, Minn						.50
Fort Bennett, S. Dak						
Fort Shaw, Mont			5.00			
Fort A. Lincoln, N. Dak						
Total	574.00	6,689.68	61,473.35	3,307.94	765.58	15,567.08

appropriations made for the Quartermaster's Department, etc.—Continued.

TRANSPORTATION OF THE ARMY.								
Stage transportation.	Civilian employés, pay of.	Extra-duty pay of enlisted men.	Vessels—purchasing, chartering, operating, and maintaining.	Means of transportation—purchasing and repairing wagons, carts, etc.	Animals—purchase, stabling, etc., of.	Harness—purchase and repair of.	Water supply and sewerage.	Wharves and bridges.
.....	$583.50	$404.20	.....	$122.50	$147.50	$32.50	$567.11	.....
.....	1,482.04	387.60	.....	209.50	300.00	.....	379.96	.....
.....	.....	678 40	.....	193.16	737.00	2.50	690.37	.....
.....	.....	.....	.....	10.50	4.00	.75	.....	.....
$59.48	36,582.75	11,593.30	$28,706.35	2,485.10	2,453.50	173.25	51,435.52	$10,838.68
53.50	10,690.30	13.50	111.72	1,712.80	27.00	64.95	2,755.31	.....
213.50	9,697.33	1,415.75	115.83	220.19	.....	37.68	8,964.82	16.60
.....	12,653.13	719.26	.....	110.88	.....	.....	1,120.33	450.00
.....	900.00	515.50	.....	126.75	.....	86.85	817.75	.....
.....	.....	393.40	.....	8.00	.....	4.50	75.00	.....
.....	720.00	361.32	.....	.....	150.00	.....	257.00	.....
.....	5,989.44	795.20	125.00	418.85	.....	10.50	15,199.81	.....
.....	1,200.00	.....	.....	2,372.65	.....	7,452.86	155.24	.....
84.50	6,988.00	2,404.65	.....	51.10	.....	.....	3.05	.....
.....	.....	250.43	.....	122.00	.....	.....	296.52	.....
.....	4,327.00	1,385.29	.....	2.00	.....	.....	105.00	.....
484.25	5,520.00	2,071.75	.....	.....	.....	.....	.....	.....
.....	.....	.....	38.00	.....	.....	.....	.....	.....
835.75	58,685.20	10,326.05	390.55	5,145.22	177.00	7,657.34	29,749.83	466.60
4,641.62	20,764.51	.....	.....	3,987.67	508.35	450.27	39,532.34	.....
7.80	6,399.96	.....	.....	140.00	.....	9.14	9,252.84	.....
.....	3,480.00	1,962.10	.....	10.35	18.00	.....	.....	.....
15.00	3,923.64	3,478.34	.....	23.60	.....	.....	445.55	.....
.....	2,498.00	1,163.75	.....	11.50	.....	.....	.....	.....
2.50	4,659.20	2,284.10	.....	.....	.....	.....	10.00	.....
.....	2,510.00	584.15	.....	.....	542.45	.....	.....	.....
.....	1,080.00	1,539.60	.....	466.50	.....	.....	3,990.00	.....
.....	1,790.00	1,319.60	.....	.....	.....	.....	1,117.70	.....
.....	.....	343.30	.....	27.44	.....	.....	.....	.....
.....	2,314.00	1,363.95	.....	12.25	128.50	.....	.....	.....
.....	12,562.64	1,248.10	.....	1.00	80.00	.....	911.42	.....
.....	3,059.00	666.40	.....	10.00	.....	.....	.....	.....
.....	1,118.17	21.70	.....	.....	.....	.....	.....	.....
.....	2,160.00	464.45	.....	4.38	.....	.....	37.86	.....
.....	.....	76.25	.....	.....	.....	.....	6.65	.....
.....	.....	.....	.....	2.95	.....	.....	.....	.....
4,666.92	68,319.12	16,515.79	.....	4,697.64	1,277.30	459.41	55,304.36	.....
899.68	15,874.22	.....	.....	1,332.41	26.67	92.72	8,442.18	.....
5.00	.....	.....	.....	.....	24.50	.....	.....	.....
.....	11,323.05	718.55	.....	8.25	288.50	.....	.....	.....
10.00	7,035.75	1,099.25	.....	.....	.....	.....	83.00	.....
.....	5,257.25	819.20	.....	17.00	.....	.....	49.50	.....
.....	6,409.13	1,093.40	.....	18.65	4.80	.....	156.40	.....
.....	3,650.65	180.70	.....	.....	44.81	.....	264.00	.....
13.50	2,945.96	480.90	.....	68.00	319.73	.....	30.00	.....
.....	1,766.50	357.00	.....	.....	.....	.....	.....	.....
.....	1,897.31	117.25	.....	4.50	.....	.....	.....	.....
.....	5,689.15	226.80	.....	.....	.....	.....	.....	.....
.....	5,721.63	876.75	.....	.....	2,020.92	.....	.....	.....
.....	6,930.00	1,406.60	.....	.....	.....	.....	1,119.00	.....
.....	6,887.51	1,552.60	.....	1.75	.....	.....	.....	.....
.....	438.00	144.20	.....	.....	.....	.....	.....	.....
.....	946.81	140.70	.....	.....	69.00	.....	.....	.....
.....	199.00	57.75	.....	.....	15.00	.....	.....	.....
928.18	82,971.92	9,271.65	.....	1,450.56	2,813.93	92.72	10,153.08	.....

C.—*Statement showing in detail the amounts expended from the variou*

Division, department, and post.	CAVALRY AND ARTILLERY HORSES.		TRANSPORTATION OF THE ARMY.			
	All expenses not otherwise enumerated.	Total amounts.	Railroad transportation.	Water transportation.	Expressage.	Wagon transportation.
Department of Texas.						
Headquarters, San Antonio, Tex.	$213.45	$13,063.60	$20,241.40	$491.55	$587.00	$7,312.06
Eagle Pass, camp at, Tex						
Fort Hancock, Tex						
Fort Bliss, Tex						
Fort Sam Houston, Tex						
Camp Pena Colorado, Tex						
Fort Ringgold, Tex						1.50
Fort McIntosh, Tex						
Fort Clark, Tex						
Fort Brown, Tex						
In the field						
Total	213.45	13,063.60	20,241.40	491.55	587.00	7,313.56
Department of California.						
Headquarters, San Francisco, Cal	90.00	4,955.15				12,713.07
Presidio of San Francisco, Cal						
Fort Mason, Cal						
Alcatraz Island, Cal						
Angel Island, Cal						
Fort Gaston, Cal						
Benecia Barracks, Cal						
Fort Bidwell, Cal						
In the field						
Total	90.00	4.955.15				12,713.07
Department of Arizona.						
Headquarters, Los Angeles, Cal			5,286.25			46,386.51
Whipple Barracks, Ariz						
Fort Huachuca, Ariz						
Fort Wingate, N. Mex					1.50	
Fort Bayard, N. Mex						
Fort Stanton, N. Mex						
San Carlos, Ariz						
Fort Apache, Ariz						195.60
Fort Grant, Ariz						
Fort Bowie, Ariz						
San Diego Barracks, Cal				10.00		5.00
Fort Marcy, N. Mex						3.75
Total			5,286.25	10.00	1.50	46,590.86
Department of the Columbia.						
Headquarters, Vancouver Barracks, Wash		5,776.35	8.00		2.85	484.59
Portland, Oregon			850.81	2,024.12	20.55	3,423.39
Fort Walla Walla, Wash						5.00
Boise Barracks, Idaho						
Fort Sherman, Idaho						
Fort Townsend, Wash						452.17
Fort Canby, Wash				162.00		
Fort Spokane, Wash						
In the field						
Total		5,776.35	858.81	2,186.12	23.40	4,365.15

appropriations made for the Quartermaster's Department, etc.—Continued.

TRANSPORTATION OF THE ARMY.

Stage transportation.	Civilian employés, pay of.	Extra-duty pay of enlisted men.	Vessels—purchasing, chartering, operating, and maintaining.	Means of transportation—purchasing and repairing wagons, carts, etc.	Animals—purchase, stabling, etc., of	Harness—purchase and repair of.	Water supply and sewerage.	Wharves and bridges.
$1,847.08	$15,935.95	$800.80	$132.87	$780.46	$138.59	$530.46	$11,357.29	$1,416.00
.....	.....	451.95	.....	43.25	.....	.....	300.76	.....
.....	.....	773.40	.....	.....	.....	.....	.....	.....
.....	1,284.00	718.15	.....	.....	.....	.....	1,500.00	.....
.....	1,298.33	2,273.15	.....	.....	.....	.....	465.31	.....
.....	716.00	818.10	.....	.....	.....	.....	.....	.....
.....	2,375.00	1,398.35	.....	.....	79.90	.....	.....	.....
.....	2,160.00	1,441.50	.....	.....	.....	.....	143.70	.....
.....	2,446.00	1,933.75	.....	270.00	.....	.....	.....	.....
.....	1,412.00	635.40	.....	24.00	.....	25.00	30.00	.....
.....	.....	[illegible]	.....	19.50	679.13	.....	.....	.....
1,847.08	27,627.28	11,356.50	132.87	1,137.21	897.62	555.46	13,797.06	1,416.00
.....	4,777.35	.....	28,508.19	5.75	874.00	32.75	1,991.55	1,888.89
.....	9,228.63	1,676.35	.....	.....	32.50	.....	28.60	2,500.00
.....	.....	581.35	.....	75.50	.....	.....	167.00	329.32
.....	.....	304.50	.....	20.81	.....	.....	130.00	.....
.....	706.44	606.85	.....	.....	.....	.....	114.00	.....
.....	1,467.00	286.25	.....	100.00	.....	.....	.....	.....
.....	.....	441.35	.....	.....	.....	.....	1,148.35	.....
.....	.....	332.50	.....	176.00	.....	.....	202.25	.....
.....	.....	4.20	.....	43.50	.....	.....	.....	.....
.....	16,179.42	4,233.35	28,508.19	421.56	906.50	32.75	3,781.75	4,718.21
4,851.50	7,048.09	.....	.....	6,075.79	1,503.83	117.45	4,242.61	.....
.....	2,112.00	1,176.65	.....	45.33	.....	.....	.....	.....
.....	3,714.65	1,098.15	.....	.....	8.50	.....	.....	.....
.....	4,664.00	1,984.85	.....	9.30	.....	.....	210.00	.....
.....	3,165.00	1,728.02	.....	46.75	26.30	.....	12.80	.....
.....	3,049.00	791.10	.....	.....	22.40	.....	1,011.68	.....
.....	4,866.66	983.55	.....	.....	.....	.....	10.00	.....
.....	5,519.67	1,048.60	.....	1.00	5.50	.....	.....	.....
.....	5,712.97	1,411.12	.....	.50	40.89	75.00	.....	.....
.....	3,704.00	637.90	.....	.....	18.60	.....	47.94	.....
.....	301.00	307.65	98.00	95.30	.....	.....	585.23	.....
.....	405.66	230.60	.....	115.35	.....	54.50	1,848.33	.....
4,851.50	44,262.70	11,398.19	98.00	6,389.32	1,626.02	246.95	7,968.59	.....
.....	13,696.45	2,126.98	20.00	1,356.18	.....	310.13	1,696.29	.....
513.50	1,466.63	.....	.....	257.94	.....	61.16	2,691.93	.....
.....	4,665.18	1,107.40	.....	.....	.....	805.35	903.90	.....
.....	1,660.00	306.35	.....	142.20	.....	33.00	932.50	.....
.....	3,789.63	1,876.55	.....	758.42	7.00	.....	800.97	.....
.....	480.00	922.70	100.00	233.76	.....	163.25	.....	90.00
.....	600.00	562.90	24.50	.....	.....	.....	.....	.....
.....	3,968.16	1,557.25	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	1.50	.....	.....	.....	.....
513.50	30,326.05	8,460.13	144.50	2,750.00	7.00	1,372.89	7,025.59	90.00

C.—*Statement showing in detail the amounts expended from the various*

Division, department, and post.	TRANSPORTATION OF THE ARMY.					
	Roads, harbors and rivers.	Tolls on ferries, bridges, etc.	Advertising and printing.	Reimbursement of traveling expenses.	Boxes, crates, bales, etc., for stores shipped.	Lumber, rope, and miscellaneous articles.
General depots.						
New York, N. Y	$500.00	$22.85	$58.20	$185.93	$591.54	$2,106.26
Philadelphia, Pa	55.00		86.60	174.70	9,364.85	6.50
Washington, D. C	6,481.59		54.14	757.15	285.92	339.45
Jeffersonville, Ind	14.00	375.00	230.34	27.60	144.03	20,344.31
San Francisco, Cal	696.50		510.38	183.55	1,492.00	699.92
St. Louis, Mo	84.21	15.00	10.50	14.25	3,004.50	1,392.20
Total	7,831.30	412.85	950.16	1,343.18	14,882.84	24,888.64
Independent posts.						
Atlanta, Ga	930.00			13.40		238.81
Columbus Barracks, Ohio	190.00					46.71
Sault de Ste. Marie, Mich	1,713.28		1.90			3.50
Davids Island, N. Y. Harbor				11.25		15.00
West Point, N. Y		14.10				
Jefferson Barracks, Mo	7,828.54	13.00	22.50			77.00
Willets Point, N. Y						70.00
Hot Springs, Ark						5.00
El Paso, Tex	71.05		80.40			
U. S. Powder Depot, N. J						
Fort Snelling, Ordnance Depot, Minn						
Augusta Arsenal, Ga						
Indianapolis Arsenal, Ind						
National Armory, Springfield, Mass						
Columbia Arsenal, Tenn						
Kennebec Arsenal, Me						
Watervliet Arsenal, N. Y						
Allegheny Arsenal, Pa						
Frankford Arsenal, Pa						
Benicia Arsenal, Cal			3.38			
Watertown Arsenal, Mass			15.60			
Rock Island Arsenal, Ill						
U. S. legations at London, Paris, Berlin, Vienna, St. Petersburg, and Dusseldorf						
Total	10,732.87	27.10	122.78	24.75		456.02
Department of the East.						
Headquarters, Governors Island, N. Y		50.00	38.00	1.65		187.66
Baltimore, Md		15.00	25.42	18.85		14.00
Buffalo, N. Y		10.00		18.55		177.63
Boston, Mass						47.27
Fort Monroe, Va	1,870.97		15.25	4.00		
New Orleans, La						121.75
Washington Barracks, D. C	294.00					12.50
Newport Barracks, Ky		48.20				4.50
Jackson Barracks, La	87.30					45.75
St. Francis Barracks, Fla						
Fort Warren, Mass						225.63
Mount Vernon Barracks, Ala						124.60
Fort Preble, Me		289.20				22.02
Fort Trumbull, Conn		23.10				
Fort Adams, R. I						
Fort Thomas (and Newport), Ky	4,339.14	262.52	38.26			30.00
Fort Myer, Va						2.76
Fort Hamilton, N. Y	402.00	30.00		1.50		126.13
Fort Wood, N. Y						
Fort McHenry, Md	51.25					
Fort Schuyler, N. Y						
Fort Wadsworth, N. Y		17.40				
Fort Porter, N. Y	480.00					15.00
Fort Ontario, N. Y						
Key West Barracks, Fla						
Fort Barrancas, Fla		3.00		11.10		

appropriations made for the Quartermaster's Department, etc.—Continued.

TRANSPORTATION OF THE ARMY.		Shooting galleries and ranges—construction and repairs, etc., of.	BARRACKS AND QUARTERS.					
All expenses not otherwise enumerated.	Total amounts.		Hire of quarters for officers and enlisted men.	Hire of offices.	Hire of storehouses.	Hire of stables and grounds.	Advertising.	Hire of mechanics and other employés.
$929.86	$149,732.52	.....	$168.00	.....	.....	$1,350.00	.....	$1,120.00
767.94	47,491.26	.....	.....	$2,336.04	.....	.....	.....	300.00
3,260.46	50,207.15	.....	763.00	.....	.....	2,016.63	$21.64	900.00
534.63	74,382.60	.....	.....	.....	.....	.....	.....	.....
595.75	38,939.22	$55.50	.....	9,999.96	$1,728.75	.....	.....	1,080.00
2,233.34	80,699.96	.....	.....	6,780.08	166.67	330.00	18.90	.....
8,321.98	441,452.71	55.50	931.00	19,116.08	1,895.42	3,696.63	40.54	3,400.00
310.00	6,829.28	.....	.....	250.00	.....	.....	31.95	.....
456.23	20,112.54	.....	.....	.....	.....	.....	.....	.....
872.97	6,305.23	.....	.....	360.00	.....	.....	.....	.....
1,010.00	12,663.94	.....	.....	.....	.....	.....	88.40	.....
.....	3,884.30	1.49	.....	.....	.....	.....	.....	.....
3,593.73	20,393.70	.....	.....	.....	.....	.....	155.78	.....
29.56	2,504.31	.....	.....	.....	.....	.....	83.40	.....
.....	1,234.21	.....	.....	.....	.....	.....	.....	.....
226.35	1,634.85	.....	.....	352.00	.....	67.50	.....	.....
160.50	172.28	.....	.....	.....	.....	.....	.....	.....
.....	463.75	.....	.....	.....	.....	.....	.....	.....
.....	66.56	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	186.00	.....	.....	.....	.....	.....	.....	.....
.....	47.72	.....	.....	.....	.....	.....	.....	.....
.25	53.50	.....	.....	.....	.....	.....	.....	.....
.....	625.58	.....	.....	.....	.....	.....	.....	.....
.....	128.78	.....	.....	.....	.....	.....	.....	.....
12.00	1,360.31	.....	.....	.....	.....	.....	.....	.....
.....	343.00	.....	.....	.....	.....	.....	.....	.....
.....	971.41	.....	.....	.....	.....	.....	.....	.....
.....	1,923.72	.....	.....	.....	.....	.....	.....	.....
203.52	203.52	.....	.....	1,453.85	.....	.....	.....	.....
6,875.11	82,108.49	1.49	.....	2,415.85	.....	67.50	359.53	.....
1,051.59	31,785.78	.....	10.80	.....	.....	.....	67.60	3,780.00
24.03	22,028.45	.....	96.00	600.00	.....	.....	.....	.....
171.60	6,982.79	.....	.....	775.50	.....	.....	.....	.....
785.36	24,009.98	.....	.....	1,929.96	.....	.....	.....	.....
1,693.80	16,064.21	10.00	.....	.....	.....	.....	38.40	.....
1,176.18	11,511.12	.....	.....	1,380.00	1,116.64	.....	.....	.....
120.00	2,500.45	6.16	.....	.....	.....	.....	20.28	.....
10.00	520.84	1.20	.....	.....	.....	.....	.....	.....
588.50	6,750.79	3.00	.....	.....	.....	.....	27.60	.....
415.00	1,097.66	.....	.....	.....	.....	.....	.....	.....
.....	1,548.53	2.40	.....	.....	.....	.....	.....	.....
1,830.65	5,009.88	31.52	.....	.....	.....	.....	10.20	.....
44.52	2,257.11	1.50	.....	.....	.....	.....	.....	.....
35.00	1,112.05	1.20	.....	.....	.....	.....	.....	.....
425.00	8,874.72	1.92	.....	.....	.....	.....	.....	.....
544.75	22,970.65	2,334.92	.....	.....	.....	.....	.....	1,650.00
116.75	3,908.17	3.00	12.00	.....	.....	.....	.....	.....
10.00	8,901.39	3.30	.....	.....	.....	.....	60.40	.....
140.00	1,091.10	.....	.....	.....	.....	.....	.....	.....
.....	979.75	.....	.....	.....	.....	.....	.....	.....
.....	8,205.58	2.46	.....	.....	.....	.....	.....	.....
755.40	3,472.44	4.50	.....	.....	.....	.....	.....	.....
543.57	3,604.85	.....	.....	.....	.....	.....	.....	.....
.....	632.39	.....	.....	.....	.....	.....	.....	.....
214.07	700.00	.....	.....	.....	.....	.....	.....	.....
479.40	3,373.75	1.26	.....	.....	.....	.....	.....	.....

C.—*Statement showing in detail the amounts expended from the various*

Division, department, and post.	TRANSPORTATION OF THE ARMY.					
	Roads, harbors and rivers.	Tolls on ferries, bridges, etc.	Advertising and printing.	Reimbursement of traveling expenses.	Boxes, crates, bales, etc., for stores shipped.	Lumber, rope, and miscellaneous articles.
Department of the East—Cont'd.						
Madison Barracks, N. Y	$2,078.63		$125.50	$40.55		$24.30
Plattsburg Barracks, N. Y	751.11			31.98		
Fort Niagara, N. Y						170.37
Fort McPherson, Ga	108.00					60.68
In the field		$48.72				
Total	10,462.40	787.14	242.43	128.18		1,412.55
Department of the Missouri.						
Headquarters, Chicago, Ill	268.61	30.00	88.52	1.50	$24.00	237.98
Fort Leavenworth, Kans	373.50	40.10	17.10			719.58
Fort Riley, Kans	654.72					18.04
Fort Wayne, Mich						
Fort Brady, Mich						
Fort Mackinac, Mich						
Fort Sheridan, Ill	13,504.44		71.17	.99		581.20
Fort Leavenworth Military Prison, Kans						21.62
Fort Reno, Okla		6.00				3.75
Oklahoma, Okla						37.95
Fort Supply, Ind. T						
Fort Sill, Okla		40.00				
In the field						
Total	14,801.27	116.10	176.79	2.49	24.00	1,620.12
Department of the Platte.						
Headquarters, Omaha, Nebr	2,765.00		311.90	470.15	219.50	986.04
Denver, Colo	2,216.50		40.25	50.45		45.22
Fort McKinney, Wyo						
Fort Robinson, Nebr	400.00					
Fort Washakie, Wyo						31.95
Fort Niobrara, Nebr						
Fort Randall, S. Dak		11.75				
Fort Omaha, Nebr						
Fort Douglas, Utah	27.00	5.00				
Camp Pilot Butte, Wyo						
Fort Du Cheene, Utah						18.00
Fort D. A. Russell, Wyo				133.55		
Fort Logan, Colo						
Fort Lewis, Colo						
Fort Sidney, Nebr						
Bellevue Rifle Range, Nebr						
In the field		3.20				
Total	5,408.50	19.95	352.15	654.15	219.50	1,081.21
Department of Dakota.						
Headquarters, St. Paul, Minn	43.40	25.00		50.46	93.53	2,869.45
Helena, Mont		6.25				
Fort Custer, Mont		89.40		2.90		
Fort Meade, S. Dak				13.09		
Fort Missoula, Mont				30.30		
Fort Keogh, Mont		40.75		35.25		
Fort Yellowstone, Wyo		45.25				
Fort Sully, S. Dak		10.00		3.00		
Camp Poplar River, Mont						
Fort Pembina, N. Dak		30.10		6.18		
Fort Buford, N. Dak		128.25		11.62		
Fort Yates, N. Dak		68.20				
Fort Assiniboine, Mont						
Fort Snelling, Minn	2,209.00	25.85		4.20		
Fort Bennett, S. Dak						
Fort Shaw, Mont						
Fort A. Lincoln, N. Dak						
Total	2,252.40	469.05		157.00	93.53	2,869.45

appropriations made for the Quartermaster's Department, etc.—Continued.

TRANSPORTATION OF THE ARMY.		Shooting galleries and ranges—construction and repairs, etc., of.	BARRACKS AND QUARTERS.					
All expenses not otherwise enumerated.	Total amounts.		Hire of quarters for officers and enlisted men.	Hire of offices.	Hire of storehouses.	Hire of stables and grounds.	Advertising.	Hire of mechanics and other employés.
$49.95	$6,425.81	.....	$72.00	$102.00	.....	.....	.....	.....
155.90	2,796.30	.....	.....	.....	.....	.....	.....	.....
58.55	2,995.02	$73.36	.....	.....	.....	.....	.....	.....
408.68	2,896.29	54.08	306.00	.....	.....	.....	.....	.....
.....	63.97	.....	.....	.....	.....	$71.25	.....	.....
11,848.25	215,069.82	2,535.78	496.80	4,787.46	$1,116.64	71.25	$230.48	$5,430.00
428.84	98,987.32	.....	19.95	20,135.76	2,250.00	1,800.00	122.60	.....
706.10	25,663.47	65.95	.....	275.00	.....	.....	.....	518.00
4,003.05	20,804.09	110.50	.....	.....	.....	.....	.....	.....
126.15	2,607.00	.....	.....	.....	.....	.....	.....	.....
336.00	816.90	.....	.....	.....	.....	.....	.....	.....
.....	1,593.32	120.86	.....	.....	.....	.....	.....	.....
11,253.37	47,969.97	16.75	36.00	200.00	.....	.....	.....	600.00
274.85	11,477.22	.....	.....	.....	.....	.....	.....	.....
7.50	10,507.79	402.28	.....	.....	.....	.....	.....	.....
.....	706.90	.....	18.00	.....	.....	.....	.....	.....
.....	5,819.29	5.18	.....	.....	.....	.....	.....	.....
.....	8,116.00	6.21	96.00	.....	.....	.....	.....	.....
.50	38.50	.....	.....	.....	.....	57.00	.....	.....
17,136.36	235,107.77	727.73	169.95	20,610.76	2,250.00	1,857.00	122.60	1,118.00
3,243.10	117,559.62	44.73	.....	9,744.00	376.00	500.01	45.40	.....
22.70	115,629.12	.....	.....	1,800.00	.....	.....	14.70	.....
19.80	5,493.25	4.80	.....	.....	.....	.....	.....	.....
.....	12,285.99	50.00	.....	.....	.....	.....	.....	.....
.....	3,705.20	20.10	.....	.....	.....	.....	.....	.....
27.50	7,998.05	10.90	.....	.....	.....	.....	.....	.....
.....	3,648.35	2.19	.....	.....	.....	.....	.....	.....
436.45	7,512.55	10.00	.....	.....	.....	.....	.....	.....
5.00	5,208.57	9.45	.....	360.00	.....	.....	.....	.....
.....	370.74	.97	.....	.....	.....	.....	.....	.....
09.00	3,905.70	1.75	120.00	.....	.....	.....	.....	625.00
11.67	14,948.38	59.00	.....	115.50	.....	.....	.....	.....
.....	3,735.40	.....	429.50	.....	.....	.....	.....	.....
.....	1,850.17	.....	.....	.....	.....	.....	.....	.....
.....	2,857.30	.....	.....	.....	.....	.....	.....	.....
.....	82.90	.....	.....	.....	.....	.....	.....	.....
2.50	8.65	.....	.....	.....	.....	.....	.....	.....
2,837.72	306,799.94	213.89	549.50	12,019.50	376.00	500.01	60.10	625.00
1,005.56	107,445.07	242.79	130.00	.....	.....	.....	.....	.....
25.00	4,452.41	.....	.....	632.50	.....	.....	.....	.....
560.75	12,991.40	1.13	.....	.....	.....	.....	.....	1,708.00
100.10	8,341.19	7.50	.....	.....	.....	.....	.....	.....
.....	6,173.25	3.83	.....	.....	.....	.....	.....	.....
.....	7,758.38	60.66	.....	.....	.....	.....	.....	.....
10.00	4,195.41	1.09	72.00	.....	.....	.....	.....	.....
394.00	4,301.09	4.40	.....	.....	.....	.....	.....	.....
1.75	2,125.25	.....	.....	.....	.....	.....	.....	.....
.....	2,055.34	.....	.....	.....	.....	.....	.....	.....
.....	6,055.82	3.91	.....	.....	.....	.....	.....	.....
60 00	8,747.50	6.75	.....	.....	.....	.....	.....	.....
.....	9,455.60	10.85	.....	.....	.....	.....	.....	.....
421.88	11,108.29	13.23	.....	.....	.....	139.00	.....	2,411.02
.....	582.20	.....	.....	.....	.....	.....	.....	.....
99.00	1,255.51	.....	.....	.....	.....	.....	.....	.....
.....	271.75	.....	.....	.....	.....	.....	.....	.....
2,678.04	197,315.46	356.14	202.00	632.50	.....	139.00	.....	4,119.02

C.—*Statement showing in detail the amounts expended from the various*

Division, department, and post.	TRANSPORTATION OF THE ARMY.					
	Roads, harbors and rivers.	Tolls on ferries, bridges, etc.	Advertising and printing.	Reimbursement of traveling expenses.	Boxes, crates, bales, etc., for stores shipped.	Lumber, rope, and miscellaneous articles.
Department of the East—Cont'd.						
Madison Barracks, N. Y	$2,078.63		$125.50	$40.55		$24.30
Plattsburg Barracks, N. Y	751.11			31.98		
Fort Niagara, N. Y						170.37
Fort McPherson, Ga	108.00					60.68
In the field		$48.72				
Total	10,462.40	787.14	242.43	128.18		1,412.55
Department of the Missouri.						
Headquarters, Chicago, Ill	268.61	30.00	88.52	1.50	$24.00	237.98
Fort Leavenworth, Kans	373.50	40.10	17.10			719.58
Fort Riley, Kans	654.72					18.04
Fort Wayne, Mich						
Fort Brady, Mich						
Fort Mackinac, Mich						
Fort Sheridan, Ill	13,504.44		71.17	.99		581.20
Fort Leavenworth Military Prison, Kans						21.62
Fort Reno, Okla		6.00				3.75
Oklahoma, Okla						37.95
Fort Supply, Ind. T						
Fort Sill, Okla		40.00				
In the field						
Total	14,801.27	116.10	176.79	2.49	24.00	1,620.12
Department of the Platte.						
Headquarters, Omaha, Nebr	2,765.00		311.90	470.15	219.50	986.04
Denver, Colo	2,216.50		40.25	50.45		45.22
Fort McKinney, Wyo						
Fort Robinson, Nebr	400.00					
Fort Washakie, Wyo						31.95
Fort Niobrara, Nebr						
Fort Randall, S. Dak		11.75				
Fort Omaha, Nebr						
Fort Douglas, Utah	27.00	5.00				
Camp Pilot Butte, Wyo						
Fort Du Chesne, Utah						18.00
Fort D. A. Russell, Wyo				133.55		
Fort Logan, Colo						
Fort Lewis, Colo						
Fort Sidney, Nebr						
Bellevue Rifle Range, Nebr						
In the field		3.20				
Total	5,408.50	19.95	352.15	654.15	219.50	1,081.21
Department of Dakota.						
Headquarters, St. Paul, Minn	43.40	25.00		50.46	93.53	2,869.45
Helena, Mont		6.25				
Fort Custer, Mont		89.40		2.90		
Fort Meade, S. Dak				13.09		
Fort Missoula, Mont				30.30		
Fort Keogh, Mont		40.75		35.25		
Fort Yellowstone, Wyo		45.25				
Fort Sully, S. Dak		10.00		3.00		
Camp Poplar River, Mont						
Fort Pembina, N. Dak		30.10		6.18		
Fort Buford, N. Dak		128.25		11.62		
Fort Yates, N. Dak		68.20				
Fort Assiniboine, Mont						
Fort Snelling, Minn	2,209.00	25.85		4.20		
Fort Bennett, S. Dak						
Fort Shaw, Mont						
Fort A. Lincoln, N. Dak						
Total	2,252.40	469.05		157.00	93.53	2,869.45

appropriations made for the Quartermaster's Department, etc.—Continued.

TRANSPORTATION OF THE ARMY.		Shooting galleries and ranges—construction and repairs, etc., of.	BARRACKS AND QUARTERS.					
All expenses not otherwise enumerated.	Total amounts.		Hire of quarters for officers and enlisted men.	Hire of offices.	Hire of storehouses.	Hire of stables and grounds.	Advertising.	Hire of mechanics and other employés.
$49.95	$6,425.81	.....	$72.00	$102.00	.....	.....	.....	.....
155.90	2,796.30	.....	.....	.....	.....	.....	.....	.....
58.55	2,995.02	$73.36	.....	.....	.....	.....	.....	.....
408.68	2,896.29	54.08	306.00	.....	.....	.....	.....	.....
.....	63.97	.....	.....	.....	.....	$71.25	.....	.....
11,848.25	215,069.82	2,535.78	496.80	4,787.46	$1,116.64	71.25	$230.48	$5,430.00
428.84	98,987.32	.....	19.95	20,135.76	2,250.00	1,800.00	122.60	.....
706.10	25,663.47	65.95	.....	275.00	.....	.....	.....	518.00
4,003.05	20,804.09	110.50	.....	.....	.....	.....	.....	.....
126.15	2,607.00	.....	.....	.....	.....	.....	.....	.....
336.00	816.90	.....	.....	.....	.....	.....	.....	.....
.....	1,593.32	120.86	.....	.....	.....	.....	.....	.....
11,253.37	47,969.97	16.75	36.00	200.00	.....	.....	.....	600.00
274.85	11,477.22	.....	.....	.....	.....	.....	.....	.....
7.50	10,507.79	402.28	.....	.....	.....	.....	.....	.....
.....	706.90	.....	18.00	.....	.....	.....	.....	.....
.....	5,819.29	5.18	.....	.....	.....	.....	.....	.....
.....	8,116.00	6.21	96.00	.....	.....	.....	.....	.....
.50	38.50	.....	.....	.....	.....	57.00	.....	.....
17,136.36	235,107.77	727.73	169.95	20,610.76	2,250.00	1,857.00	122.60	1,118.00
3,243.10	117,559.62	44.73	.....	9,744.00	376.00	500.01	45.40	.....
22.70	115,629.12	.....	.....	1,800.00	.....	.....	14.70	.....
19.80	5,493.25	4.80	.....	.....	.....	.....	.....	.....
.....	12,285.99	50.00	.....	.....	.....	.....	.....	.....
.....	3,705.20	20.10	.....	.....	.....	.....	.....	.....
27.50	7,998.05	10.90	.....	.....	.....	.....	.....	.....
.....	3,648.35	2.19	.....	.....	.....	.....	.....	.....
436.45	7,512.55	10.00	.....	.....	.....	.....	.....	.....
5.00	5,208.57	9.45	.....	360.00	.....	.....	.....	.....
.....	370.74	.97	.....	.....	.....	.....	.....	.....
69.00	3,905.70	1.75	120.00	.....	.....	.....	.....	625.00
11.67	14,948.38	59.00	.....	115.50	.....	.....	.....	.....
.....	3,735.40	.....	429.50	.....	.....	.....	.....	.....
.....	1,850.17	.....	.....	.....	.....	.....	.....	.....
.....	2,857.30	.....	.....	.....	.....	.....	.....	.....
.....	82.90	.....	.....	.....	.....	.....	.....	.....
2.50	8.65	.....	.....	.....	.....	.....	.....	.....
2,837.72	306,799.94	213.89	549.50	12,019.50	376.00	500.01	60.10	625.00
1,005.56	107,445.07	242.79	130.00	.....	.....	.....	.....	.....
25.00	4,452.41	.....	.....	632.50	.....	.....	.....	.....
560.75	12,991.40	1.13	.....	.....	.....	.....	.....	1,708.00
100.10	8,341.19	7.50	.....	.....	.....	.....	.....	.....
.....	6,173.25	3.83	.....	.....	.....	.....	.....	.....
.....	7,758.38	60.66	.....	.....	.....	.....	.....	.....
10.00	4,195.41	1.09	72.00	.....	.....	.....	.....	.....
394.00	4,301.09	4.40	.....	.....	.....	.....	.....	.....
1.75	2,125.25	.....	.....	.....	.....	.....	.....	.....
.....	2,055.34	.....	.....	.....	.....	.....	.....	.....
.....	6,055.82	3.91	.....	.....	.....	.....	.....	.....
60 00	8,747.50	6.75	.....	.....	.....	.....	.....	.....
.....	9,455.60	10.85	.....	.....	.....	.....	.....	.....
421.88	11,108.29	13.23	.....	.....	.....	139.00	.....	2,411.02
.....	582.20	.....	.....	.....	.....	.....	.....	.....
99.00	1,255.51	.....	.....	.....	.....	.....	.....	.....
.....	271.75	.....	.....	.....	.....	.....	.....	.....
2,678.04	197,315.46	356.14	202.00	632.50	.....	139.00	.....	4,119.02

C.—*Statement showing in detail the amounts expended from the various*

Division, department, and post.	TRANSPORTATION OF THE ARMY.					
	Roads, harbors and rivers.	Tolls on ferries, bridges, etc.	Advertising and printing.	Reimbursement of traveling expenses.	Boxes, crates, bales, etc., for stores shipped.	Lumber, rope, and miscellaneous articles.
Department of Texas.						
Headquarters, San Antonio, Tex.	$4,449.86	$3.00	$250.86	$112.00	.....	$1,043.04
Eagle Pass, camp at, Tex	.....	.....	.....	.....	.....	.....
Fort Hancock, Tex	.....	.....	.....	.....	.....	.....
Fort Bliss, Tex	.....	.....	.....	.....	.....	.....
Fort Sam Houston, Tex	141.00	.....	.....	.....	.....	.....
Camp Pena Colorado, Tex	.....	.....	.....	.....	.....	.....
Fort Ringgold, Tex	.....	.....	.....	.....	.....	.....
Fort McIntosh, Tex	.....	.....	.....	.....	.....	.....
Fort Clark, Tex	.....	.....	.....	.....	.....	.....
Fort Brown, Tex	.....	.....	.....	.....	.....	.....
In the field	.....	.....	.....	.....	.....	.....
Total	4,590.86	3.00	250.86	112.00	.....	1,043.04
Department of California.						
Headquarters, San Francisco, Cal	.....	.....	98.02	201.15	.....	.....
Presidio of San Francisco, Cal	.....	.....	.....	.....	.....	.....
Fort Mason, Cal	.....	.....	.....	.....	.....	.....
Alcatraz Island, Cal	.....	.....	.....	.....	.....	.....
Angel Island, Cal	.....	.....	.....	.....	.....	.....
Fort Gaston, Cal	.....	.....	.....	.....	.....	32.88
Benicia Barracks, Cal	.....	.....	.....	.....	.....	.....
Fort Bidwell, Cal	.....	.....	.....	.....	.....	.....
In the field	.....	125.53	.....	.....	.....	.....
Total	.....	125.53	98.02	201.15	.....	32.88
Department of Arizona.						
Headquarters, Los Angeles, Cal.	23.50	.....	498.43	458.14	$63.40	1,209.83
Whipple Barracks, Ariz	.....	.....	.....	.....	.....	45.00
Fort Huachuca, Ariz	.....	.....	.....	.....	.....	.....
Fort Wingate, N. Mex	687.38	.....	.....	.....	.....	.....
Fort Bayard, N. Mex	.....	.....	.....	.....	.....	.....
Fort Stanton, N. Mex	.....	.....	.....	.....	.....	.....
San Carlos, Ariz	.....	.....	.....	.....	.....	.....
Fort Apache, Ariz	.....	.....	.....	24.00	.....	120.00
Fort Grant, Ariz	.....	.....	.....	.....	.....	.....
Fort Bowie, Ariz	.....	.....	.....	.....	.....	.....
San Diego Barracks, Cal	.....	.....	.....	.....	.....	7.60
Fort Marcy, N. Mex	.....	.....	.....	.....	.....	.....
Total	710.88	.....	498.43	482.14	63.40	1,382.43
Department of the Columbia.						
Headquarters, Vancouver Barracks, Wash	1,255.60	7.70	14.25	68.25	.....	84.05
Portland, Oregon	8.50	38.40	.....	13.75	.....	676.84
Fort Walla Walla, Wash	.....	.....	.....	.....	.....	.....
Boise Barracks, Idaho	.....	.....	.....	.....	.....	106.99
Fort Sherman, Idaho	.....	89.25	.....	.....	.....	.....
Fort Townsend, Wash	.....	.....	.....	.....	.....	.....
Fort Canby, Wash	.....	.....	.....	.....	.....	374.45
Fort Spokane, Wash	.....	.....	.....	2.99	.....	.....
In the field	.....	6.50	.....	.....	.....	.....
Total	1,264.10	141.85	14.25	84.99	.....	1,242.33

appropriations made for the Quartermaster's Department, etc.—Continued.

TRANSPORTATION OF THE ARMY.		Shooting galleries and ranges—construction and repairs, etc., of.	BARRACKS AND QUARTERS.					
All expenses not otherwise enumerated.	Total amounts.		Hire of quarters for officers and enlisted men.	Hire of offices.	Hire of storehouses.	Hire of stables and grounds.	Advertising.	Hire of mechanics and other employés.
$4,493.95	$71,924.22	$259.52	$3,021.00	$64.00	.....	$1,628.00	$55.40	$718.25
180.00	975.96	1.12	.....	.....	.....	.....	.....	.....
300.00	1,073.40	.63	.....	.....	.....	.....	.....	.....
.....	3,502.15	169.12	.....	.....	.....	.....	.....	.....
630.00	4,807.79	9.79	.....	.....	.....	.....	.....	.....
.....	1,534.10	1.13	.....	.....	.....	.....	.....	.....
264.00	4,118.75	2.25	165.00	.....	.....	.....	.....	.....
2,788.66	6,533.86	2.25	.....	.....	.....	.....	.....	.....
1,068.00	5,717.75	6.90	.....	.....	.....	.....	.....	.....
443.89	2,570.29	1.13	.....	.....	.....	.....	.....	.....
1.00	810.58	.....	.....	.....	.....	.....	.....	.....
10,169.50	103,568.85	453.84	3,186.00	64.00	.....	1,628.00	55.40	718.25
563.25	51,653.97	.....	144.00	12,000.00	$376.00	360.00	.....	.....
10.00	13,476.08	.....	.....	.....	.....	.....	.....	.....
.....	1,150.17	1.10	.....	.....	.....	.....	.....	.....
170.00	625.31	2.00	.....	.....	.....	.....	.....	.....
.....	1,427.29	20.58	.....	.....	.....	.....	.....	.....
.....	1,886.13	1.20	.....	.....	.....	.....	.....	.....
.....	1,589.70	2.50	.....	.....	.....	.....	.....	.....
220.00	930.75	8.49	.....	.....	.....	.....	.....	.....
175.00	348.23	.....	.....	.....	.....	.....	.....	.....
1,138.25	73,090.63	35.87	144.00	12,000.00	376.00	360.00	.....	.....
20,046.64	97,811.97	73.80	906.52	8,204.00	.....	380.00	129.93	.....
.....	3,378.98	119.94	.....	.....	.....	.....	.....	.....
248.50	5,069.80	5.00	.....	.....	.....	.....	.....	.....
150.00	7,707.03	7.00	.....	.....	.....	.....	.....	.....
52.50	5,031.37	6.00	.....	.....	.....	.....	.....	.....
480.00	5,354.18	60.08	.....	.....	.....	.....	.....	.....
472.00	6,332.21	4.75	.....	.....	.....	.....	.....	.....
420.42	7,334.79	75.10	.....	.....	.....	.....	.....	.....
.....	7,240.48	4.75	.....	.....	.....	.....	.....	.....
.....	4,408.44	2.10	.....	.....	.....	.....	.....	.....
80.00	1,489.78	77.86	2,194.80	.....	.....	.....	.....	.....
40.00	2,698.19	.....	347.67	.....	.....	.....	.....	.....
21,990.06	153,857.22	436.38	3,448.99	8,204.00	.....	380.00	129.93	.....
405.14	21,536.46	42.22	.....	116.00	60.00	.....	7.00	.....
244.36	12,291.88	53.13	.....	1,396.00	600.00	.....	.....	.....
400.25	7,887.08	1.14	.....	360.00	.....	.....	.....	.....
.....	3,181.04	2.30	30.00	.....	.....	.....	.....	.....
19.65	7,341.47	38.23	.....	.....	.....	.....	.....	.....
.....	2,441.88	25.00	.....	.....	.....	.....	.....	.....
.....	1,723.85	1.95	.....	.....	.....	.....	.....	.....
.....	5,528.40	.....	.....	.....	.....	.....	.....	.....
.....	8.00	.....	.....	.....	.....	.....	.....	.....
1,069.40	61,940.06	163.97	30.00	1,872.00	660.00	.....	7.00	.....

C.—*Statement showing in detail the amounts expended from the various*

Division, department, and post.	BARRACKS AND QUARTERS.			HOSPITALS.		
	Construction and repairs.	All expenses not otherwise enumerated.	Total amounts.	Construction and repairs.	Advertising.	Extra-duty pay of enlisted men.
General depots.						
New York, N. Y	$709.17		$3,347.17			
Philadelphia, Pa	555.81		3,191.85			
Washington, D. C	5,197.56	$437.88	9,336.71			
Jeffersonville, Ind	230.98		230.98			
San Francisco, Cal	1,303.62	417.01	14,529.34	$11.57		
St. Louis, Mo	5,317.32	222.23	12,835.20	151.04		
Total	13,314.46	1,077.12	43,471.25	162.61		
Independent posts.						
Atlanta, Ga	449.54		731.49	486.50		
Columbus Barracks, Ohio	4,440.57		4,440.57	878.75		
Sault de Ste. Marie, Mich			360.00			
Davids Island, N. Y. Harbor	17,612.36		17,700.76	548.00		
West Point, N. Y						
Jefferson Barracks, Mo	2,882.69		3,038.47	67.60		
Willets Point, N. Y	7,063.07		7,146.47	519.00		
Hot Springs, Ark	142.73		142.73	198.82		
El Paso, Tex			419.50			
U. S. Powder Depot, N. J						
Fort Snelling, Ordnance Depot, Minn	279.25		277.25			
Augusta Arsenal, Ga						
Indianapolis Arsenal, Ind						
National Armory, Springfield, Mass						
Columbia Arsenal Tenn						
Kennebec Arsenal, Me						
Watervliet Arsenal, N. Y						
Allegheny Arsenal, Pa						
Frankford Arsenal, Pa						
Benicia Arsenal, Cal						
Watertown Arsenal, Mass						
Rock Island Arsenal, Ill						
U. S. legations at London, Paris, Berlin, Vienna, St. Petersburg, and Dusseldorf			1,453.85			
Total	32,870.21		35,713.09	2,698.67		
Department of the East.						
Headquarters, Governors Island, N. Y	7,462.64		11,321.04	152.25		
Baltimore, Md	200.00		896.00			
Buffalo, N. Y	84.00		859.50			
Boston, Mass	47.07		1,977.03			
Fort Monroe, Va	27,429.60	40.00	27,508.00	1,093.50	$17.30	
New Orleans, La	1,150.52		3,647.16			
Washington Barracks, D. C	7,809.74		7,830.02	20.00		
Newport Barracks, Ky	357.36		357.36	485.00		
Jackson Barracks, La	6,377.49		6,405.09	361.50		
St. Francis Barracks, Fla	1,189.50		1,189.50			
Fort Warren, Mass	997.91		997.91			
Mount Vernon Barracks, Ala	8,046.68		8,056.88	2,648.22		
Fort Preble, Me	1,879.38		1,879.38	209.03		
Fort Trumbull, Conn	1,200.00		1,200.00	492.48		
Fort Adams, R. I	3,874.84		3,874.84	300.00		
Fort Thomas (and Newport), Ky	2,619.95		4,269.95	99.00		
Fort Myer, Va	2,520.79		2,532.79	42.86		
Fort Hamilton, N. Y	3,000.00		3,066.40	633.33		
Fort Wood, N. Y	1,116.74		1,116.74	3,932.25		
Fort McHenry, Md	1,428.60	.75	1,429.35	32.07		
Fort Schuyler, N. Y	4,260.45		4,260.45	282.00		
Fort Wadsworth, N. Y	6,729.84		6,729.84	674.50		
Fort Porter, N. Y	1,344.81		1,344.81			
Fort Ontario, N. Y	625.15		625.15	205.00		
Key West Barracks, Fla	5,000.00		5,000.00			
Fort Barrancas, Fla	1,499.98		1,499.98			

appropriations made for the Quartermaster's Department, etc.—Continued.

HOSPITALS.		CLOTHING AND CAMP EQUIPAGE.						Hospital steward's quarters—construction and repairs, etc., of.
All expenses not otherwise enumerated.	Total amounts.	Purchase of material.	Manufacture.	Advertising.	Employés.	All expenses not otherwise enumerated.	Total amounts.	
		$704,054.28	$115,828.65	$1,808.44	$31,577.83	$3,080.23	$856,349.43	
						177.30	177.30	
		75,993.04	39,846.70		10,598.89	64.63	126,503.26	
	$11.57	72,306.94		110.35		118.95	72,536.24	$143.44
	151.04	3,045.00			4,340.20	3,946.72	11,331.92	15.25
	162.61	855,399.26	155,675.35	1,918.79	46,516.92	7,387.83	1,066,898.15	158.69
	486.50							
	878.75					6.00	6.00	135.00
	548.00					3.25	3.25	238.00
	67.60							4.55
	519.00					14.00	14.00	15.14
$1.15	199.97							
1.15	2,699.82					23.25	23.25	392.69
	152.25					6.00	6.00	1,345.50
	1,110.80					28.00	28.00	
	20.00					14.50	14.50	
	485.00							
	361.50							130.60
						14.00	14.00	
	2,648.22							34.05
	209.03							104.20
	492.48					6.00	6.00	64.48
	300.00					32.00	32.00	175.91
	99.00							132.00
	42.86					1.00	1.00	117.30
	633.33					49.00	49.00	70.00
	3,932.25							
2.93	35.00					52.00	52.00	93.00
	282.00					8.00	8.00	245.70
	674.50					1.00	1.00	
								1,197.00
	205.00							54.50
						14.00	14.00	

C.—*Statement showing in detail the amounts expended from the various*

Division, department, and post.	BARRACKS AND QUARTERS.			HOSPITALS.		
	Construction and repairs.	All expenses not otherwise enumerated.	Total amounts.	Construction and repairs.	Advertising.	Extra-duty pay of enlisted men.
Department of the East—Cont'd.						
Madison Barracks, N. Y	$3,477.87		$3,651.87			
Plattsburg Barracks, N. Y	1,350.00		1,350.00			
Fort Niagara, N. Y	1,028.96		1,028.96	$477.48		
Fort McPherson, Ga	774.23		1,080.23			
In the field			71.25			
Total	104,884.10	$40.75	$117,057.48	12,140.47	$17.30	
Department of the Missouri.						
Headquarters, Chicago, Ill	1,146.55	2.00	25,476.86			
Fort Leavenworth, Kans	19,506.36	533.69	20,833.05	985.83		
Fort Riley, Kans	3,479.62		3,479.62	1,108.24		
Fort Wayne, Mich	2,575.10		2,575.10	169.40		
Fort Brady, Mich	111.86		111.86			
Fort Mackinac, Mich	1,321.04		1,321.04			
Fort Sheridan, Ill	1,518.10		2,354.10	1,397.00	78.57	
Fort Leavenworth Military Prison, Kans	4,295.07	42.81	4,337.88			
Fort Reno, Okla	3,490.04		3,490.04			
Oklahoma, Okla	235.72		253.72			
Fort Supply, Ind. T	1,297.74		1,297.74	80.00		
Fort Sill, Okla	4,671.98		4,767.98			
In the field			57.00			
Total	43,649.18	578.50	70,355.99	3,740.47	78.57	
Department of the Platte.						
Headquarters, Omaha, Nebr	32,343.85	737.93	43,747.19	2,602.86	16.08	
Denver, Colo	9,051.14	18.00	10,883.84	820.31		
Fort McKinney, Wyo	2,193.11		2,193.11	463.00		
Fort Robinson, Nebr	3,315.34	42.00	3,357.34	2,162.00		
Fort Washakie, Wyo	5,106.41		5,106.41	515.00		
Fort Niobrara, Nebr	4,636.81		4,636.81	653.30		
Fort Randall, S. Dak				40.46		
Fort Omaha, Nebr	203.50		203.50	22.33		
Fort Douglas, Utah	3,422.00		3,782.00			
Camp Pilot Butte, Wyo						
Fort Du Chesne, Utah	396.50		1,141.50			
Fort D. A. Russell, Wyo	3,695.10		3,810.60	106.00		
Fort Logan, Colo	1,007.80		1,437.30	125.93		
Fort Lewis, Colo						
Fort Sidney, Nebr				101.25		
Bellevue Rifle Range, Nebr						
In the field						
Total	65,371.56	797.93	80,290.60	7,612.44	16.08	
Department of Dakota.						
Headquarters, St. Paul, Minn	31,931.03		32,061.03	2,314.11	30.24	
Helena, Mont			632.50			
Fort Custer, Mont	5,298.91		7,006.91	77.00		
Fort Meade, S. Dak	9,288.39		9,288.39			
Fort Missoula, Mont	1,595.89	47.00	1,642.89	228.25		
Fort Keogh, Mont	1,122.18		1,122.18	394.60		$49.80
Fort Yellowstone, Wyo	30.00		102.00			
Fort Sully, S. Dak	476.00		476.00			
Camp Poplar River, Mont				20.00		
Fort Pembina, N. Dak				36.00		
Fort Buford, N. Dak	324.00		324.00	69.00		
Fort Yates, N. Dak	3,350.34	44.65	3,394.99	231.00		
Fort Assiniboine, Mont				265.25		64.00
Fort Snelling, Minn	361.56		2,911.58	60.00		
Fort Bennett, S. Dak						
Fort Shaw, Mont		75.00	75.00			
Fort Abraham Lincoln, N. Dak						
Total	53,778.30	166.65	59,037.47	3,695.21	30.24	113.80

appropriations made for the Quartermaster's Department, etc.—Continued.

HOSPITALS.		CLOTHING AND CAMP EQUIPAGE.						Hospital steward's quarters—construction and repairs, etc., of.
All expenses not otherwise enumerated.	Total amounts.	Purchase of material.	Manufacture.	Advertising.	Employés.	All expenses not otherwise enumerated.	Total amounts.	
						$1.00	$1.00	$10.50
	$477.48							
						81.00	81.00	39.50
$2.93	12,160.70					307.50	307.50	3,814.24
1.00	1.00							
	985.83					55.73	55.73	81.09
37.29	1,145.53					4.00	4.00	1,265.45
	169.40							97.75
								307.00
	1,475.57							
		$43,911.22	$123.06	$46.14	$3,949.92	4,021.41	52,051.75	
	80.00							100.00
								45.98
38.29	3,857.33	43,911.22	123.06	46.14	3,949.92	4,081.14	52,111.48	1,897.27
12.00	2,630.94					39.25	39.25	92.93
	820.31							
	463.00							
	2,162.00							
	515.00							92.55
	653.30							20.62
	40.46							
	22.33							
	106.00							42.00
	125.93					1.00	1.00	
	101.25							43.75
12.00	7,640.52					40.25	40.25	291.85
	2,344.35							554.88
	77.00					78.95	78.95	
						151.39	151.39	116.75
	228.25					128.13	128.13	8.00
	444.40					88.00	88.00	132.17
						18.00	18.00	33.00
	20.00							
16.25	52.25							5.00
	69.00					58.50	58.50	
	231.00					153.00	153.00	20.00
	329.25					118.80	118.80	68.50
	60.00					190.50	190.50	
						40.00	40.00	
16.25	3,855.50					1,025.27	1,025.27	948.30

C.—*Statement showing in detail the amounts expended from the various*

Division, department and post.	BARRACKS AND QUARTERS.			HOSPITALS.		
	Construction and repairs.	All expenses not otherwise enumerated.	Total amounts.	Construction and repairs.	Advertising.	Extra-duty pay of enlisted men.
Department of Texas.						
Headquarters, San Antonio, Tex.	$20,269.95	$38.69	$25,795.29	$5,089.86	$24.48	.....
Eagle Pass, camp at, Tex	.....	.....	.....	.....	.....	.....
Fort Hancock, Tex	.....	.....	.....	.....	.....	$5.62
Fort Bliss, Tex	.....	.....	.....	.....	.....	.....
Fort Sam Houston, Tex	629.87	.....	629.87	.....	.....	.....
Camp Pena Colorado, Tex	.....	.....	.....	.....	.....	.....
Fort Ringgold, Tex	48.00	.....	213.00	128.00	.....	.....
Fort McIntosh, Tex	4,883.25	21.23	4,904.48	.....	.....	.....
Fort Clark, Tex	.....	.....	.....	158.50	.....	54.00
Fort Brown, Tex	375.90	.....	375.90	255.00	.....	.....
In the field	.....	.....	.....	.....	.....	.....
Total	26,206.97	59.92	31,918.54	5,631.36	24.48	59.62
Department of California.						
Headquarters, San Francisco, Cal	.....	.....	12,880.00	.....	.....	.....
Presidio of San Francisco, Cal	8,566.37	.....	8,566.37	469.00	.....	.....
Fort Mason, Cal	1,911.81	.....	1,911.81	1,374.80	.....	.....
Alcatraz Island, Cal	1,492.79	.....	1,492.79	.....	.....	.....
Angel Island, Cal	6,163.33	.....	6,163.33	6.50	.....	.....
Fort Gaston, Cal	296.89	.....	296.89	.....	.....	.....
Benicia, Barracks, Cal	3,265.47	.....	3,265.47	.....	.....	.....
Fort Bidwell, Cal	1,538.70	.....	1,538.70	22.45	.....	.....
In the field	.....	.....	.....	.....	.....	.....
Total	23,235.36	.....	36,115.36	1,872.75	.....	.....
Department of Arizona.						
Headquarters, Los Angeles, Cal.	20,213.92	209.22	30,043.59	1,469.71	.....	.....
Whipple Barracks, Ariz	334.49	.....	334.49	262.79	.....	.....
Fort Huachuca, Ariz	2,748.79	.....	2,748.79	92.00	.....	.....
Fort Wingate, N. Mex	5,181.63	.....	5,181.63	819.28	.....	.....
Fort Bayard, N. Mex	1,169.00	.....	1,169.00	.....	.....	.....
Fort Stanton, N. Mex	3,161.87	.....	3,161.87	120.85	.....	.....
San Carlos, Ariz	887.50	.....	887.50	1,848.50	.....	23.00
Fort Apache, Ariz	5,283.00	.....	5,283.00	.....	.....	.....
Fort Grant, Ariz	3,194.83	.....	3,194.83	.....	.....	.....
Fort Bowie, Ariz	7.75	.....	7.75	19.50	.....	54.83
San Diego Barracks, Cal	235.25	900.00	3,330.05	.....	.....	.....
Fort Marcy, N. Mex	3,690.99	.....	4,038.66	599.18	.....	.....
Total	46,109.02	1,109.22	59,381.16	5,231.81	.....	77.83
Department of the Columbia.						
Headquarters, Vancouver Barracks, Wash	10,038.88	4.00	10,225.88	2,500.00	.....	.....
Portland, Oregon	6,288.00	32.92	8,316.92	130.98	.....	.....
Fort Walla Walla, Wash	132.80	.....	492.80	.....	.....	.....
Boise Barracks, Idaho	2,929.57	.....	2,959.57	314.38	.....	.....
Fort Sherman, Idaho	1,142.72	16.35	1,159.07	290.20	.....	.....
Fort Townsend, Wash	581.08	.....	581.08	.....	.....	.....
Fort Canby, Wash	995.17	.....	995.17	188.15	.....	.....
Fort Spokane, Wash	547.75	8.00	555.75	364.70	.....	.....
In the field	.....	.....	.....	.....	.....	.....
Total	22,655.97	61.27	25,286.24	3,788.31	.....	.....

appropriations made for the Quartermaster's Department, etc.—Continued.

HOSPITALS.		CLOTHING AND CAMP EQUIPAGE.						Hospital steward's quarters—construction and repairs, etc., of.
All expenses not otherwise enumerated.	Total amounts.	Purchase of material.	Manufacture.	Advertising.	Employés.	All expenses not otherwise enumerated.	Total amounts.	
$57.00	$5,171.34					$38.60	$38.60	$407.49
	5.62							
						17.25	17.25	
	128.00							8.50
	212.50							
	255.00							
57.00	5,772.46					55.85	55.85	415.99
	469.00					39.00	39.00	252.35
	1,374.80					5.00	5.00	87.50
						32.00	32.00	1,005.49
	6.50					2.00	2.00	
						1.00	1.00	7.68
						1.00	1.00	39.00
	22.45							
	1,872.75					80.00	80.00	1,391.92
	1,469.71							92.48
	262.79							
	92.00							
	819.28							13.60
	120.85							14.00
	1,871.50							
								112.00
								6.93
	74.33							
	599.18							68.00
	5,309.64							307.01
	2,500.00							183.12
	130.98							35.02
								28.00
	314.38							18.50
	290.20							72.33
11.00	11.00							211.72
	188.15					2.00	2.00	137.50
	364.70							73.00
11 00	3,799.31					2.00	2.00	759.19

C.—*Statement showing in detail the amounts expended from the various*

RECAPITULATION.

Depots, independent posts, and departments.	Regular supplies.	Incidental expenses.	Cavalry and artillery horses.
General depots	$257,916.09	$162,829.52	$26,493.20
Independent posts	80,151 32	43,063.66	.....
Department of the East	215,842.56	81,858.22	2,300.00
Department of the Missouri	278,508.38	73,938.12	1,354.80
Department of the Platte	336,395.16	62,493.91	7,163.64
Department of Dakota	337,570.42	53,909.73	6,689.68
Department of Texas	175,600.36	33,583.16	13,063.60
Department of California	117,761.96	28,060.90	4,955.15
Department of Arizona	345,042.74	40,143.79	.....
Department of the Columbia	133,044.20	26,479.04	5,776,35
Total	2,277,838.19	606,360.05	67,796.42

appropriations made for the Quartermaster's Department, etc.—Continued.

RECAPITULATION.

Transportation of the Army.	Shooting galleries and ranges.	Barracks and quarters.	Hospitals.	Hospital stewards' quarters.	Clothing and equipage.	Total.
$441,452.71	$55.50	$43,471.25	$162.61	$158.69	$1,066,898.15	$1,999,437.72
82,108.49	1.49	35,713.09	2,699.82	392.69	23.25	244,153.81
215,069.82	2,535.78	117,057.48	12,160.70	3,814.24	307.50	650,946.30
235,107.77	727.73	70,355.99	3,857.33	1,897.27	52,111.48	717,858.87
306,799.94	213.89	80,299.60	7,640.52	291.85	40.25	801,338.76
197,315.46	355.14	59,037.47	3,855.50	948.30	1,025.27	660,707.97
103,568.85	453.84	31,918.54	5,772.46	415.09	55.85	364,432.65
73,090.63	35.87	36,115.36	1,872.75	1,391.92	80.00	263,364.54
153,857.22	436.38	59,381.16	5,309.64	307.01	.....	604,477.94
61,940.06	163.97	25,286.24	3,799.31	759.19	2.00	257,250.36
1,870,310.95	4,980.59	558,636.18	47,130.64	10,377.15	1,120,543.75	6,563,968.92

C, SUPPLEMENTAL.—*Statement showing in detail amounts expended from the various appro depots, independent posts, and departments of the Army, as shown by the accounts of off*

Division, department, and post.	REGULAR SUPPLIES.						
	Forage and straw.	Fuel.	Heating and cooking apparatus, and repairs to same.	Illuminating supplies.	Stationery.	Advertising.	Printing.
General depots.							
New York, N. Y			$541.27	$9,210.00	$9.60		
Philadelphia, Pa						$64.20	
Washington, D. C	$3,902.96	$1,718.37	1,026.10			23.50	
Jeffersonville, Ind					644.83		
San Francisco, Cal		12.10	7,054.83		2,537.37		
St. Louis, Mo							
Total	3,902.96	1,730.47	8,622.20	9,210.00	3,191.80	87.70	
Independent posts.							
Atlanta, Ga			1,815.60			76.20	$45.90
Columbus Barracks, Ohio							
Total			1,815.60			76.20	45.90
Department of the East.							
Newport (Fort Thomas), Ky			8,308.52	520.00			
Governors Island, N. Y	388.89					32.75	
Boston, Mass		78.70					
New Orleans, La							
Fort McHenry, Md			255.00				
Baltimore, Md							
Jackson Barracks, La							
Fort Monroe, Va			1,237.90				
Fort Niagara, N. Y	85.29		4,510.16				
Fort Barrancas, Fla							
Mount Vernon Barracks, Ala							
Buffalo, N. Y							
Total	474.18	78.70	14,311.58	520.00		32.75	
Department of the Missouri.							
Chicago, Ill	266.07					95.00	
Fort Sheridan, Ill			4,690.00				
Fort Leavenworth, Kans							
Fort Leavenworth Military Prison, Kans			210.46				
Fort Riley, Kans			26.65	5.60			
Fort Sill, Okla	112.12	45.00		7.13			
Fort Reno, Okla							
Total	378.19	45.00	4,927.11	12.73		95.00	
Department of the Platte.							
Fort Robinson, Nebr	634.41	102.25					
Omaha, Nebr	460.79		2,340.00			14.65	
Denver, Colo			300.00				
Total	1,095.20	102.25	2,640.00			14.65	
Department of Dakota.							
Fort Meade, S. Dak							
Camp Poplar River, Mont							
Fort Sully, S. Dak				2.00			
Fort Snelling, Minn			304.00				
St. Paul, Minn	9,253.83	5,649.78	930.00			430.75	65.41
Fort Keogh, Mont							
Helena, Mont							
Fort Yates, N. Dak							
Total	9,253.83	5,649.78	1,234.00	2.00		430.75	65.41

priations for the Quartermaster's Department for the fiscal year 1891 in the general cers received since the preparation of the annual report for fiscal year ending June 30, 1891.

REGULAR SUPPLIES.					INCIDENTAL EXPENSES.			
Tableware and mess furniture.	Garden utensils and agricultural implements.	Employés.	All expenses not otherwise enumerated.	Total amounts.	Extra-duty pay of enlisted men.	Civilian employés.	Shoeing animals, including materials.	Recovery of horses and mules.
	$56.79		$86.24	$9,903.90				
$5,151.23				5,215.43				
	2.50			6,673.43	$19.00			
				644.83			$230.31	
	46.20			9,650.50			1,815.50	
5,151.23	105.49		86.24	32,088.09	19.00		2,045.81	
				1,937.70				
				1,937.70				
				8,828.52				
				421.64				
				78.70				
				255.00				
				1,237.90				
				4,595.45				
				15,417.21				
				361.07				
525.00			12,548.00	17,763.00				
			588.20	798.66				
			2.50	34.75				
		$225.00		389.25	375.80	$300.00		
525.00		225.00	13,138.70	19,346.73	375.80	300.00		
		200.00		936.66	270.00	292.60		
				2,815.44				
				300.00				
		200.00		4,052.10	270.00	292.60		
				2.00				
				304.00				
				16,329.77				
				16,635.77				

C, SUPPLEMENTAL.—*Statement showing in detail the amounts expended from the*

Division, department, and post.	REGULAR SUPPLIES.						
	Forage and straw.	Fuel.	Heating and cooking apparatus, and repairs to same.	Illuminating supplies.	Stationery.	Advertising.	Printing.
Department of California.							
San Francisco, Cal						$47.10	
Fort Mason, Cal							
Presidio of San Francisco, Cal							
Total						47.10	
Department of Texas.							
San Antonio, Tex			$12,991.40				
Department of Arizona.							
Los Angeles, Cal	$18,724.55	$1,839.13				943.68	$318.85
San Carlos, Ariz							
Fort Wingate, N. Mex							
Fort Stanton, N. Mex							
Fort Apache, Ariz							
Total	18,724.55	1,839.13				943.68	318.85
Department of the Columbia.							
Vancouver Barracks, Wash	30.36	668.95					
Boise Barracks, Idaho							
Portland, Oregon							
Fort Spokane, Wash							
Total	30.36	668.95					

various appropriations made for the Quartermaster's Department, etc.—Continued.

REGULAR SUPPLIES.					INCIDENTAL EXPENSES.			
Tableware and mess furniture.	Garden utensils and agricultural implements.	Employés.	All expenses not otherwise enumerated.	Total amounts.	Extra duty pay of enlisted men.	Civilian employés.	Shoeing animals, including materials.	Recovery of horses and mules.
.....	.....	.....	.....	$47.10	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	47.10	.....	.....	.....	.....
.....	.....	.....	.....	12,991.40	.....	.....	.....	.....
.....	.....	.....	.....	21,826.21	$106.28	.....	$17.25	$25.00
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	21,826.21	106.28	.....	17.25	25.00
.....	.....	.....	.....	699.31	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	699.31	.....	.....	.....	.....

C, SUPPLEMENTAL.—*Statement showing in detail the amounts expended from the*

Division, department, and post.	INCIDENTAL EXPENSES.					
	Interments of officers and enlisted men.	Telegraph and telephone services.	Office furniture.	Apprehension and delivery of deserters.	All expenses not otherwise enumerated.	Total amounts.
General depots.						
New York, N. Y						
Philadelphia, Pa					$39.12	$39.12
Washington, D. C	$25.00	$69.79		$125.00	1,787.00	2,025.79
Jeffersonville, Ind			$191.52		3,025.51	3,447.34
San Francisco, Cal						1,815.50
St. Louis, Mo						
Total	25.00	69.79	191.52	125.00	4,851.63	7,327.75
Independent posts.						
Atlanta, Ga						
Columbus Barracks, Ohio						
Total						
Department of the East.						
Newport (Fort Thomas), Ky		8.20				8.20
Governors Island, N. Y						
Boston, Mass						
New Orleans, La						
Fort McHenry, Md						
Baltimore, Md						
Jackson Barracks, La						
Fort Monroe, Va					9.03	9.03
Fort Niagara, N. Y						
Fort Barrancas, Fla						
Mount Vernon Barracks, Ala						
Buffalo, N. Y						
Total		8.20			9.03	17.23
Department of the Missouri.						
Chicago, Ill						
Fort Sheridan, Ill					3,360.66	3,360.66
Fort Leavenworth, Kans						
Fort Leavenworth Military Prison, Kans			33.00			33.00
Fort Riley, Kans					2,324.00	2,324.00
Fort Sill, Okla					5.50	681.30
Fort Reno, Okla						
Total			33.00		5,690.16	6,398.96
Department of the Platte.						
Fort Robinson, Nebr						562.60
Omaha, Nebr					16.25	16.25
Denver, Colo						
Total					16.25	578.85
Department of Dakota.						
Fort Meade, S. Dak						
Camp Poplar River, Mont					7.00	7.00
Fort Sully, S. Dak						
Fort Snelling, Minn					2,138.75	2,138.75
St. Paul, Minn					66.50	66.50
Fort Keogh, Mont						
Helena, Mont					3.00	3.00
Fort Yates, N. Dak						
Total					2,215.25	2,215.25

various appropriations made for the Quartermaster's Department, etc.—Continued.

CAVALRY AND ARTILLERY HORSES.				TRANSPORTATION OF THE ARMY.					
Purchase of cavalry and artillery horses.	Advertising.	All expenses not otherwise enumerated.	Total amounts.	Railroad transportation.	Water transportation.	Expressage.	Wagon transportation.	Stage transportation.	Civilian employés, pay of.
				$7,176.15	$1,876.12	$7.50	$8.50		
				942.32	4.88	31.35	.25		
	$25.25		$25.25	1,432.83	3.57	84.52	72.00	$5.00	
				443.83	10.62				
				367.59	43.22	18.10			
				1,836.60	2.17	.30		.50	
	25.25		25.25	12,199.32	1,940.48	141.77	80.75	5.50	
				1,296.35	4.40	6.66		2.00	
				1,416.47					
				1,022.12	24.50				
									$51.75
				137.46					
				3,872.40	28.00	6.66		2.00	51.75
				107,135.71		1.90	944.77		
							117.23		
				2,410.70		2.05		3.60	
								114.50	1,448.00
				109,546.41		3.95	1,062.00	118.10	1,448.00
									992.17
				20,490.24	32.99	336.76	552.76	850.75	
				2,613.74		2.05		3.60	
				23,103.98	32.99	338.81	552.76	854.35	992.17
	75.20	$20.00	95.20	78,028.76	221.75	84.38	817.75	87.50	
									30.00
$6,800.00			6,800.00	471.67				6.50	
6,800.00	75.20	20.00	6,895.20	78,500.43	221.75	84.38	817.75	94.00	30.00

C, SUPPLEMENTAL.—*Statement showing in detail the amounts expended from the*

Division, department, and post.	INCIDENTAL EXPENSES.					
	Interments of officers and enlisted men.	Telegraph and telephone services.	Office furniture.	Apprehension and delivery of deserters.	All expenses not otherwise enumerated.	Total amounts.
Department of California.						
San Francisco, Cal					$11.20	$11.20
Fort Mason, Cal						
Presidio of San Francisco, Cal						
Total					11.20	11.20
Department of Texas.						
San Antonio, Tex		$17.63				17.63
Department of Arizona.						
Los Angeles, Cal		66.22			15.00	229.75
San Carlos, Aris					2.50	2.50
Fort Wingate, N. Mex						
Fort Stanton, N. Mex						
Fort Apache, Aris						
Total		66.22			17.50	232.25
Department of the Columbia.						
Vancouver Barracks, Wash						
Boise Barracks, Idaho						
Portland, Oregon						
Fort Spokane, Wash						
Total						

various appropriations made for the Quartermaster's Department, etc.—Continued.

CAVALRY AND ARTILLERY HORSES.				TRANSPORTATION OF THE ARMY.					
Purchase of cavalry and artillery horses.	Advertising.	All expenses not otherwise enumerated.	Total amounts.	Railroad transportation.	Water transportation.	Expressage.	Wagon transportation.	Stage transportation.	Civilian employés, pay of.
$3,521.25	.....	$110.00	$3,631.25	.....	.....	.....	$3,424.24	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	$200.00
3,521.25	.....	110.00	3,661.25	.....	.....	.....	3,424.24	.....	200.00
.....	.....	.....	.....	$6,631.28	$0.59	$5.01	223.29	$23.00	.....
.....	$74.79	.....	74.79	862.66	.....	.63	3,912.51	360.97	.....
1,950.00	.....	.....	1,950.00	.....	.....	.....	2,517.60	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1,950.00	74.79	.....	2,024.79	862.66	.....	.63	6,430.11	360.97	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	7.38	4.95	.....	65.82	27.50	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	7.38	4.95	.....	65.82	27.50	.....

C, SUPPLEMENTAL.—*Statement showing in detail the amounts expended from the*

Division, department, and post.	TRANSPORTATION OF THE ARMY.						
	Extra-duty pay of enlisted men.	Vessels—purchasing, chartering, operating, and maintaining.	Means of transportation—purchasing and repairing wagons, carts, etc.	Animals—purchase, stabling, etc., of.	Harness, purchase and repair of.	Water supply and sewerage.	Wharves and bridges.
General depots.							
New York, N. Y		$61,172.32				$199.60	
Philadelphia, Pa							
Washington, D. C			$97.25			1,767.48	
Jeffersonville, Ind			36,900.72			1,319.10	
San Francisco, Cal			900.84			438.00	
St. Louis, Mo							
Total		61,172.32	37,898.81			3,724.18	
Independent posts.							
Atlanta, Ga						1,666.00	
Columbus Barracks, Ohio						385.12	
Total						2,051.12	
Department of the East.							
Newport (Fort Thomas), Ky						4,444.13	
Governors Island, N. Y							
Boston, Mass							
New Orleans, La							
Fort McHenry, Md						375.00	
Baltimore, Md							
Jackson Barracks, La							
Fort Monroe, Va						1,447.08	
Fort Niagara, N. Y		45.00				5,039.45	
Fort Barrancas, Fla						1,625.00	
Mount Vernon Barracks, Ala							
Buffalo, N. Y							
Total		45.00				12,930.66	
Department of the Missouri.							
Chicago, Ill							
Fort Sheridan, Ill						9,939.52	
Fort Leavenworth, Kans							
Fort Leavenworth Military Prison, Kans					$74.03	155.70	
Fort Riley, Kans				$47.38		73.56	
Fort Sill, Okla	$531.75						
Fort Reno, Okla						1,580.80	
Total	531.75			47.38	74.03	11,749.58	
Department of the Platte.							
Fort Robinson, Nebr	253.50						
Omaha, Nebr				10.00		4,654.98	
Denver, Colo						74.80	
Total	253.50			10.00		4,729.78	
Department of Dakota.							
Fort Meade, S. Dak							
Camp Poplar River, Mont							
Fort Sully, S. Dak							
Fort Snelling, Minn						300.00	
St. Paul, Minn						4,684.84	
Fort Keogh, Mont							
Helena, Mont							
Fort Yates, N. Dak							
Total						4,984.84	

various appropriations made for the Quartermaster's Department, etc.—Continued.

TRANSPORTATION OF THE ARMY.								Shooting galleries and ranges—construction and repairs, etc., of.
Roads, harbors, and rivers.	Tolls on ferries, bridges, etc.	Advertising and printing.	Reimbursement of traveling expenses.	Boxes, crates, bales, etc., for stores shipped.	Lumber, rope, and miscellaneous articles.	All expenses not otherwise enumerated.	Total amounts.	
		$11.00	$0.75			$95.48	$70,547.82	
		42.60	4.00	$516.12			1,541.52	
$37.50		22.36	68.05			649.60	4,240.16	
							38,674.27	
				1,315.05		11.00	3,093.80	
							1,839.57	
37.50		75.96	72.80	1,831.17		756.08	119,936.64	
			14.00				1,680.00	
							385.12	
			14.00				2,065.12	
7,826.63							12,270.76	
							1,309.41	
							1,416.47	
							375.00	
							1,046.62	
							1,447.08	
							5,136.20	$9.33
							1,625.00	
					$263.00		263.00	
							137.46	
7,826.63					263.00		25,027.00	9.33
		38.68				1,001.71	109,122.77	
						6,678.63	16,735.38	
							2,416.35	
					250.00		479.73	
1,414.58						22.60	1,558.12	
160.00			18.00		33.25		2,305.50	149.90
							1,580.80	
1,574.58		38.68	18.00		283.25	7,702.94	134,198.65	149.90
						446.00	1,691.67	
		6.67			155.93		27,091.08	
209.58							2,903.77	
209.58		6.67			155.93	446.00	31,686.52	
							300.00	
		49.49			3,524.15		87,498.62	
			8.75				38.75	
							478.17	
		49.49	8.75		3,524.15		88,315.54	

C, SUPPLEMENTAL.—*Statement showing in detail the amounts expended from the*

Division, department, and post.	TRANSPORTATION OF THE ARMY.						
	Extra-duty pay of enlisted men.	Vessels—purchasing, chartering, operating, and maintaining.	Means of transportation—purchasing and repairing wagons, carts, etc.	Animals—purchase, stabling, etc., of.	Harness, purchase and repair of.	Water supply and sewerage.	Wharves and bridges.
Department of California.							
San Francisco, Cal							
Fort Mason, Cal						$590.25	
Presidio of San Francisco, Cal							
Total						590.25	
Department of Texas.							
San Antonio, Tex						3,028.94	
Department of Arizona.							
Los Angeles, Cal	$4.20		$29.00	$126.35		$42.15	
San Carlos, Ariz							
Fort Wingate, N. Mex							
Fort Stanton, N. Mex							
Fort Apache, Ariz						2,425.00	
Total	4.20		29.00	126.35		2,467.15	
Department of the Columbia.							
Vancouver Barracks, Wash							
Boise Barracks, Idaho							
Portland, Oregon						23.13	
Fort Spokane, Wash							
Total						23.13	

various appropriations made for the Quartermaster's Department, etc.—Continued.

TRANSPORTATION OF THE ARMY.								Shooting galleries and ranges—construction and repairs, etc., of.
Roads, harbors, and bridges.	Tolls on ferries, bridges, etc.	Advertising and printing.	Reimbursement of traveling expenses.	Boxes, crates, bales, etc., for stores shipped.	Lumber, rope, and miscellaneous articles.	All expenses not otherwise enumerated.	Total amounts.	
.....	.....	.....	.....	.....	.....	.....	$3,424.24	.....
.....	.....	.....	.....	.....	.....	.....	590.25	.....
.....	.....	.....	.....	.....	.....	.....	200.00	.....
.....	.....	.....	.....	.....	.....	.....	4,214.49	.....
.....	.....	.....	$5.18	.....	.....	.....	9,917.29	.....
.....	.....	$594.97	.....	.....	$20.92	$85.31	6,039.67	.....
.....	.....	.....	.....	.....	.....	.....	2,517.60	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	2,425.00	.....
.....	.....	594.97	.....	.....	20.92	85.31	10,982.27	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	128.78	.....
.....	$3.00	.....	.....	.....	.....	.....	3.00	.....
.....	3.00	.....	.....	.....	.....	.....	131.78	.....

C, SUPPLEMENTAL.—*Statement showing in detail the amounts expended from the*

Division, department, and post.	BARRACKS AND QUARTERS.					
	Hire of offices.	Hire of stables and grounds.	Advertising.	Hire of mechanics and other employés.	Construction and repairs.	Total amounts.
General depots.						
New York, N. Y						
Philadelphia, Pa						
Washington, D. C		$91.00			$20,532.23	$20,623.23
Jeffersonville, Ind						
San Francisco, Cal						
St. Louis, Mo						
Total		91.00			20,532.23	20,623.23
Independent posts.						
Atlanta, Ga						
Columbus Barracks, Ohio						
Total						
Department of the East.						
Newport (Fort Thomas), Ky						
Governors Island, N. Y						
Boston, Mass						
New Orleans, La						
Fort McHenry, Md					3,126.00	3,126.00
Baltimore, Md						
Jackson Barracks, La					276.00	276.00
Fort Monroe, Va					11,326.60	11,326.60
Fort Niagara, N. Y					1,235.00	1,235.00
Fort Barrancas, Fla						
Mount Vernon Barracks, Ala						
Buffalo, N. Y						
Total					15,963.60	15,963.60
Department of the Missouri.						
Chicago, Ill					542.19	542.19
Fort Sheridan, Ill						
Fort Leavenworth, Kans					193.36	193.36
Fort Leavenworth Military Prison, Kans						
Fort Riley, Kans						
Fort Sill, Okla				$361.48	2,231.55	2,593.03
Fort Reno, Okla						
Total				361.48	2,967.10	3,328.58
Department of the Platte.						
Fort Robinson, Nebr					1,566.40	1,566.40
Omaha, Nebr					7,330.67	7,330.67
Denver, Colo						
Total					8,897.07	8,897.07
Department of Dakota.						
Fort Meade, S. Dak					1,068.00	1,068.00
Camp Poplar River, Mont						
Fort Sully, S. Dak						
Fort Snelling, Minn						
St. Paul, Minn					11,425.00	11,425.00
Fort Keogh, Mont						
Helena, Mont						
Fort Yates, N. Dak						
Total					12,493.00	12,493.00

various appropriations made for the Quartermaster's Department, etc.—Continued.

HOSPITALS.				CLOTHING AND CAMP EQUIPAGE.					Hospital stewards' quarters—construction and repairs, etc., of.
Construction and repairs.	Advertising.	Extra-duty pay of enlisted men.	Total amounts.	Purchase of material.	Manufacture.	Advertising.	All expenses not otherwise enumerated.	Total amounts.	
				$115,968.33	$42.00	$266.70	$11.05	$116,308.08	
				1,698.07				1,698.07	
				117,686.40	42.00	266.70	11.05	118,006.15	
$1,393.00			$1,393.00						$47.50
23,963.20			23,963.20						
25,356.20			25,356.20						47.50
12,134.20			12,134.20						
	$116.10		116.10						
12,134.20	116.10		12,250.30						
2,847.00			2,847.00						
396.14		$44.00	440.14						
3,243.14		44.00	3,287.14						
246.35			246.35						
246.35			246.35						
27.00			27.00		600.00			600.00	
27.00			27.00		600.00			600.00	

C. SUPPLEMENTAL.—*Statement showing in detail the amounts expended from the*

Division, department, and post.	BARRACKS AND QUARTERS.					
	Hire of offices.	Hire of stables and grounds.	Advertising.	Hire of mechanics and other employés.	Construction and repairs.	Total amounts.
Department of California.						
San Francisco, Cal						
Fort Mason, Cal						
Presidio of San Francisco, Cal			$16.58			$16.58
Total			16.58			16.58
Department of Texas.						
San Antonio, Tex					$7,567.68	7,567.68
Department of Arizona.						
Los Angeles, Cal	$155.83		180.74		166.71	503.28
San Carlos, Ariz					2,029.39	2,029.39
Fort Wingate, N. Mex					10,691.77	10,691.87
Fort Stanton, N. Mex					1,403.52	1,403.52
Fort Apache, Ariz					1,253.50	1,253.50
Total	155.83		180.74		15,544.99	15,881.56
Department of the Columbia.						
Vancouver Barracks, Wash						
Boise Barracks, Idaho					4,971.67	4,971.67
Portland, Oregon						
Fort Spokane, Wash					749.25	749.25
Total					5,720.92	5,720.92

RECAPITULATION.

General depots, independent posts, and departments.	Regular supplies.	Incidental expenses.	Cavalry and artillery horses.
General depots	$32,088.09	$7,327.75	$25.25
Independent posts	1,937.70		
Department of the East	15,417.21	17.23	
Department of the Missouri	19,346.73	6,398.96	
Department of the Platte	4,052.10	578.85	
Department of Dakota	16,635.77	2,215.25	
Department of Texas	12,991.40	17.63	
Department of California	47.10	11.20	3,631.25
Department of Arizona	21,826.21	232.25	2,024.79
Department of the Columbia	699.31		
Total	125,041.62	16,799.12	5,681.29

various appropriations made for the Quartermaster's Department, etc.—Continued.

HOSPITALS.				CLOTHING AND CAMP EQUIPAGE.					Hospital stewards' quarters—construction and repairs, etc., of.
Construction and repairs.	Advertising.	Extra-duty pay of enlisted men.	Total amounts.	Purchase of material.	Manufacture.	Advertising.	All expenses not otherwise enumerated.	Total amounts.	
.....	.....	.....	.....	.....	.....	.....	$7.00	$7.00	.....
.....	.....	.....	.....	.....	.....	.....	17.00	17.00	.....
.....	.....	.....	.....	.....	.....	.....	24.00	24.00	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
$52.73	.....	.....	$52.73	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
133.10	.....	.....	133.10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
185.83	.....	.....	185.83	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
467.00	.....	.....	467.00	.....	.....	.....	.....	.....	.....
467.00	.....	.....	467.00	.....	.....	.....	.....	.....	.....

RECAPITULATION.

Army transportation.	Shooting galleries and ranges.	Barracks and quarters.	Hospitals.	Clothing and equipage.	Hospital stewards' quarters.	Total.
$119,936.64	.....	$20,623.23	.....	$118,006.15	.....	$298,007.11
2,065.12	.....	.....	$25,356.20	.....	$47.50	29,406.52
25,027.00	$9.33	15,963.60	12,250.30	.....	.....	68,684.67
134,198.65	149.90	3,328.58	3,287.14	.....	.....	166,709.96
31,686.52	.....	8,897.07	246.35	.....	.....	45,460.89
88,315.54	.....	12,493.00	27.00	600.00	.....	120,286.56
9,917.29	.....	7,567.68	.....	.....	.....	30,494.00
4,214.49	.....	16.58	.....	24.00	.....	7,944.62
10,982.27	.....	15,881.56	185.83	.....	.....	51,132.91
131.78	.....	5,720.92	467.00	.....	.....	7,019.01
426,475.30	159.23	90,492.22	41,819.82	118,630.15	47.50	825,146.25

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department in the departments, general depots, and independent posts of the Army, on what duty employed, their grade and monthly pay, and the appropriation from which paid, as reported by officers of the departments, on their reports of persons and articles hired for June, 1892.*

Posts.	Regular supplies; forwarding agent, $75.	Incidental expenses.											
		Clerks, $150.	Clerks, $133.33.	Clerks, $116.66.	Clerks, $100.	Draftsman, $150.	Interpreter, $100.	Janitor, $45.	Janitor, $30.	Laborer, $55.	Laborer, $30.	Messenger, $75.	Messenger, $60.
Department of the East.													
Headquarters, Governors Island, N. Y		4	5	1		1		1	1	1	1	1	
Baltimore, Md		1	1										
Buffalo, N. Y		1			1								1
Fort Monroe, Va	1		1		1								
New Orleans, La		1		1	1								
Boston, Mass		1			1								
Mount Vernon Barracks, Ala							1						
Total	1	8	7	2	4	1	1	1	1	1	1	1	1

Posts.	Incidental expenses.				Barracks and quarters.		Army transportation.							
	Messengers, $50.	Messenger, $45.	Messengers, $25.	Storekeeper, $38.	Carpenters, $60.	Painter, $60.	Blacksmiths, $60.	Blacksmith, $35.	Engineer, $100.	Engineer, $90.	Engineers, $80.	Engineers, $75.	Engineer, $70.	Engineers, $60.
Department of the East.														
Headquarters Governors Island, N. Y	1	1	1		2		1	1						
Baltimore, Md	1													
Fort Monroe, Va				1			1					1		1
Boston, Mass	1		1											
Fort McPherson, Ga									1		1			
Mount Vernon Barracks, Ala														1
Jackson Barracks, La										1	1			
Washington Barracks, D. C												1		
Fort Niagara, N. Y														1
Fort Adams, R. I												1		
Fort Schuyler, N. Y														1
Fort Hamilton, N. Y												1		
Fort Myer, Va														1
Fort Preble, Me													1	
Total	3	1	2	1	2	1	2	1	1	1	2	4	1	5

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department in the departments, etc.*—Continued.

Posts.	Army transportation.													
	Engineer, $55.	Engineer, $45.	Engineer, $40.	Firemen, $40.	Laborer, $40.	Mason, $60.	Mason's helper, $35.	Plumbers, $60.	Plumber, $65.	Plumbers, $60.	Plumbers' helper, $35.	Plumbers' helper, $25.	Superintendent of transportation, $116.66.	Teamsters, $30.
Department of the East.														
Headquarters Governors Island, N. Y		1				1	1			1	1		1	3
Fort Monroe, Va					1			1						
Fort McPherson, Ga			1					1				1		
Fort Thomas, Ky				1					1					
Madison Barracks, N. Y	1			2										
New Orleans, La														1
Washington Barracks, D. C														1
Fort Niagara, N. Y										1				
Fort Myer, Va										1				
Total	1	1	1	3	1	1	1	2	1	3	1	1	1	5

Posts.	Army transportation.													
				Launch Monroe.		Steamer Atlantic.					Steamer Resolute.			
	Teamster, $25.	Wharfinger, $85.	Wheelright, $60.	Engineer, $75.	Pilot, $70.	Deck hands, 45.	Engineers, $75.	Firemen, $55.	Master, $110.	Pilot, $110.	Deck hands, $40.	Engineer, $70.	Fireman, $50.	Master, $110.
Department of the East.														
Headquarters Governors Island, N. Y						4	2	2	1	1				
Fort Monroe, Va		1	1											
Boston, Mass											2	1	1	1
Fort McPherson, Ga	1													
Fort Adams, R. I				1	1									
Total	1	1	1	1	1	4	2	2	1	1	2	1	1	1

Posts.	Regular supplies.			Incidental expenses.								
	Coal inspector $116.66.	Forragemaster, $83.30.	Gardeners, $50.	Clerks, $150.	Clerks, $133.33.	Clerks, $116.66.	Inspector of animals, $133.33.	Janitor, $65.	Laborers, $75.	Laborer, $25.	Messenger, $50.	Watchman, 65.
Department of California.												
Headquarters San Francisco, Cal	1			3	1	2	1	1	1	1	1	1
Presidio of San Francisco, Cal		1	1		1							
Fort Mason, Cal			1									
Total	1	1	2	3	2	2	1	1	1	1	1	1

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department in the departments, etc.*—Continued.

Posts.	Barracks and quarters; carpenter, $125.	Army transportation.										
		Blacksmith, $80.	Blacksmiths, $60.	Blacksmith's helper, $50.	Draftsman, $150.	Engineer, $100.	Engineer, $60.	Herder, $50.	Packer, $60.	Plumber, $80.	Teamsters, $65.	Teamsters, $50.
Department of California.												
Headquarters San Francisco, Cal.	1				1						3	
Presidio of San Francisco, Cal		1		1		1		1		1		4
Angel Island, Cal			1				1					
Fort Gaston, Cal			1						1			
Total	1	1	2	1	1	1	1	1	1	1	3	4

Posts.	Army transportation.										
				Steamer McDowell.							
	Trainmaster, $75.	Transportation agents, $40.	Watchman, $15.	Assistant engineer, $90.	Captain, $133.33.	Deckhand, $75.	Engineer, $125.	Firemen, $80.	Mate, $80.	Seamen, $70.	Watchman, $70.
Department of California.											
Headquarters San Francisco, Cal		3		1	1	1	1	2	1	4	1
Presidio of San Francisco, Cal	1		1								
Total	1	3	1	1	1	1	1	2	1	4	1

Posts	Regular supplies; forgemasters, $60.	Incidental expenses.						Army transportation.						
		Clerks, $150.	Clerks, $133.33.	Clerks, $116.66.	Interpreters, $75.	Janitor, $60.	Messengers, $60.	Blacksmiths, $80.	Blacksmiths, $60.	Engineer, $100.	Engineer, $90.	Engineer, $85.	Engineers, $80.	Engineers, $75.
Department of Arizona.														
Headquarters, Los Angeles, Cal		2	3	4		1	2							
Whipple Barracks, Ariz								1		1				
San Carlos, Ariz	1				1			1						1
Fort Apache, Ariz	1				1			1			1			
Fort Bowie, Ariz								1					1	
Fort Huachuca, Ariz	1							1					1	
Fort Grant, Ariz	1							1						
Fort Wingate, N. Mex	1				1				1					1
Fort Bayard, N. Mex	1								1			1		
Fort Stanton, N. Mex	1								1					1
Total	7	2	3	4	3	1	2	6	3	1	1	1	2	3

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department in the departments, etc.*—Continued.

Posts.	Army transportation.													
	Laborers, $50.	Packmaster, $133.33.	Plumber, $75.	Saddler, $75.	Saddler, $50.	Teamster, $60.	Teamsters, $50.	Teamsters, $40.	Teamster, $35.	Teamsters, $30.	Transportation agents, $100.	Transportation agents, $50.	Wheelrights, $80.	Wheelrights, $60.
Department of Arizona.														
Headquarters, Los Angeles, Cal	2	1				1	2				2	5	1	
San Carlos, Ariz					1			3						
Fort Apache, Ariz				1				2					1	
Fort Bowie, Ariz								3					1	
Fort Huachuca, Ariz								2					1	
Fort Grant, Ariz								7					1	
Fort Marcy, N. Mex									1					
Fort Wingate, N. Mex			1							3				1
Fort Bayard, N. Mex										2				1
Fort Stanton, N. Mex										2				1
San Diego Barracks, Cal								1						
Total	2	1	1	1	1	1	2	18	1	7	2	5		3

Posts.	Regular supplies		Incidental expenses.							Army transportation.			
	Foragemaster, $60.	Foragemen, $40.	Clerks, $150.	Clerk, $133.33.	Clerks, $116.66.	Clerk, $100.	Messengers, $60.	Superintendent, $60.	Barracks and quarters; carpenter, $80.	Blacksmiths, $80.	Blacksmiths, $75.	Blacksmith, $60.	Blacksmith, $50.
Department of the Columbia.													
Headquarters, Vancouver Barracks, Wash	1	6	2	1	1	1	1	1	1	1			1
Portland, Oregon			1		1		1						
Fort Spokane, Wash											1		
Fort Wallawalla, Wash										1			
Fort Sherman, Idaho											1		
Boisé Barracks, Idaho												1	
Total	1	6	3	1	2	1	2	1	1	2	2	1	1

Posts.	Army transportation.													
	Engineer, $100.	Engineers, $80.	Engineers, $75.	Fireman, $45.	Hostler, $40.	Packers, $60.	Stablemaster, $60.	Teamsters, $40.	Transportation agents, $133.33.	Transportation agent, $83.33.	Warehouseman, $83.33.	Watchman, $60.	Wheelwright, $80.	Wheelwright, $75.
Department of the Columbia														
Headquarters, Vancouver Barracks, Wash	1	1		1	1		1	7	1		1	1	1	
Portland, Oreg									1					
Fort Spokane, Wash			1			1		2						1
Fort Wallawalla, Wash						1		5		1				
Fort Sherman, Idaho			1			1		2						
Fort Townsend, Wash		1												
Boisé Barracks, Idaho								2						
Fort Canby, Wash			1											
Total	1	2	3	1	1	3	1	18	2	1	1	1	1	1

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department in the departments, etc.*—Continued.

Posts.	Regular supplies.									Incidental expenses.							
	Engineer, $100.	Engineer, $80.	Fireman, $40.	Fireman, $30.	Foragemasters, $75.	Foragemaster, $55.	Foreman, $100.	Tinner, $45.	Woodranger, $40.	Clerks, $150.	Clerks, $133.33.	Clerks, $116.66.	Clerk, $100.	Farrier, $60.	Guide, $100.	Interpreters, $100.	Janitor, $50.
Department of the Missouri.																	1
Headquarters, Chicago, Ill										2	7	3	1				
Fort Leavenworth, Kans								1	1		1		1	1			
Military Prison, Fort Leavenworth, Kans							1			1							
Denver, Colo										1							
Fort Reno, Ind. T					1											1	
Fort Supply, Ind. T					1										1		
Fort Sill, Ind. T					1											1	
Fort Riley, Kans	1	1	1	1	1				1	1							
Fort Logan, Colo						1											
Total	1	1	1	1	4	1	1	1	2	5	8	3	2	1	1	2	1

Posts.	Incidental expenses.										Army transportation.				
	Janitor, $45.	Laborers, $25.	Messengers, $60.	Messengers, $50.	Messenger, $40.	Storekeeper, $75.	Veterinary surgeon, $125.	Watchman, $50.	Watchmen, $40.	Barracks and quarters carpenter, $60.	Blacksmiths, $60.	Cartman, $80.	Corralmaster, $60.	Engineers, $100.	Engineers, $80.
Department of the Missouri.															
Headquarters, Chicago, Ill		2	2	1				1	1						
Fort Leavenworth, Kans	1					1	1		1	1		1	1		1
Denver, Colo				1										1	
Fort Reno, Ind. T											1				
Fort Supply, Ind. T											1				
Fort Sill, Ind. T											1				
Fort Riley, Kans					1						1			1	
Fort Logan, Colo											1				
Fort Sheridan, Ill														1	1
Total	1	2	2	2	1	1	1	1	2	1	5	1	1	3	2

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department to the departments, etc.*—Continued.

Posts.	Army transportation.														
	Engineer, $75.	Engineers, $60.	Farrier, $60.	Fireman, $60.	Firemen, $40.	Fireman, $30.	Foreman, $100.	Foreman of stables, $65.	Hostlers, $52.	Packer, $40.	Plumbers, $80.	Plumber, $75.	Plumber, $60.	Plumber's helper, $30.	Superintendent, $75.
Department of the Missouri.															
Headquarters, Chicago, Ill								1	2						
Fort Leavenworth, Kans		1	1			1				1	1			1	
Military Prison, Fort Leavenworth, Kans							1								
Denver, Colo		1													
Fort Reno, Ind. T		1										1			
Fort Supply, Ind. T		1													
Fort Sill, Ind, T		1													
Fort Riley, Kans		1			2						1				1
Fort Logan, Colo													1		
Fort Sheridan, Ill				1											
Fort Wayne, Mich	1														
Fort Mackinac, Mich		1													
Total	1	7	1	1	2	1	1	1	2	1	2	1	1	1	1

Posts.	Army transportation.													Clothing and equipage.	
	Teamsters, $52.	Teamster, $40.	Teamsters, $30.	Train-master, $60.	Transportation agent, $150.	Transportation agent, $133.33.	Transportation agents, $116.66.	Transportation agents, $100.	Transportation agents, $83.33.	Transportation agent, $60.	Wagon-master, $60.	Warehouseman, $40.	Wheelwrights, $60.	Inspector, $116.66.	Instructors, $100.
Department of the Missouri.															
Headquarters, Chicago, Ill	4				1		1	2	1						
Fort Leavenworth, Kans			10							1		1			
Military Prison, Fort Leavenworth, Kans								1						1	2
Denver, Colo		1				1	1		1						
Fort Reno, Ind. T			9										1		
Fort Supply, Ind. T			5										1		
Fort Sill, Ind. T			7	1									1		
Fort Riley, Kans			14						1		1				
Fort Logan, Colo			3												
Fort Sheridan, Ill			1												
Total	4	1	49	1	1	1	2	3	3	1	1	1	3	1	2

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department in the departments, etc.*—Continued.

Posts.	Regular supplies.					Incidental expenses.								
	Engineer, $100.	Engineer, $75.	Fireman, $45.	Forage-masters, $75.	Forage-master, $60.	Clerks, $150.	Clerks, $133.33.	Clerks, $116.66.	Clerks, $100.	Guide, $133.33.	Interpreters, $75.	Interpreters, $60.	Janitor, $60.	Messengers, $50.
Department of Dakota.														
Headquarters, St. Paul, Minn	1		1			2	2	2	4				1	2
Fort Snelling, Minn		1		1					1					
Helena, Mont						1								1
Fort Custer, Mont				1					1	1		1		
Fort Buford, N. Dak					1						1			
Fort Assiniboine, Mont												1		
Fort Keogh, Mont				1							1			
Fort Meade, S. Dak				1										
Fort Missoula, Mont														
Fort Yates, N. Dak												1		
Total	1	1	1	4	1	3	2	2	6	1	2	3	1	3

Posts.	Incidental expenses.					Barracks and quarters.					Army transportation.			
	Scavengers, $60.	Scavenger, $30.	Scout, $75.	Scrubber, $35.	Scrubber, $10.	Carpenter, $85.	Carpenter, $50.	Engineer, $75.	Master mechanic, $100.	Sawyer, $60.	Blacksmiths, $83.33.	Blacksmiths, $80.	Blacksmiths, $75.	Blacksmiths, $60.
Department of Dakota.														
Headquarters, St. Paul, Minn				1	1									
Fort Snelling, Minn						1			1					1
Fort Custer, Mont	1						1	1		1	1			
Fort Buford, N. Dak	1											1		
Fort Assiniboine, Mont	1											1		
Fort Keogh, Mont											1			
Fort Meade, S. Dak														1
Fort Missoula, Mont	1										1			
Fort Yates, N. Dak	1													1
Fort Randall, S. Dak														1
Fort Sully S. Dak		1												1
Fort Yellowstone, Wyo			1									1		
Camp Poplar River, Mont													1	
Total	5	1	1	1	1	1	1	1	1	1	3	3	1	5

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department in the departments, etc.*—Continued.

Posts.	Army transportation.													
	Elevator man, $40.	Engineer, $116.66.	Engineers, $100.	Engineers, $83.33.	Engineer, $60.	Engineer, $55.	Foreman, $60.	Hostlers, $40.	Laborer, $40.	Packers, $60.	Packers, $50.	Saddlers, $60.	Superintendent, $100.	Teamsters, $45.
Department of Dakota.														
Headquarters, St. Paul, Minn	1						1	2	1		1			2
Fort Snelling, Minn		1				1								
Fort Custer, Mont											1	1		
Fort Buford, N. Dak													1	
Fort Assiniboine, Mont												1		
Fort Keogh, Mont				1						1		1		
Fort Meade, S. Dak			1											
Fort Missoula, Mont				1										
Fort Yates, N. Dak			1							1				
Fort Randall, S. Dak					1									
Fort Sully, S. Dak				1										
Fort Yellowstone, Wyo										1				
Fort Pembina, N. Dak				1										
Total	1	1	2	4	1	1	1	2	1	3	2	3	1	2

Posts.	Army transportation.													
	Teamsters, $40.	Teamsters, $35.	Teamster, $30.	Train-master, $75.	Train-masters, $60.	Transportation agents, $133.33.	Transportation agent, $116.66.	Transportation agents, $100.	Transportation agents, $83.33.	Transportation agent, $75.	Transportation agent, $40.	Wheelwrights, $83.33.	Wheelwright, $75.	Wheelwrights, $60.
Department of Dakota.														
Headquarters, St. Paul, Minn						3	1	1	1	1	1			
Fort Snelling, Minn		7												1
Fort Custer, Mont		11		1				1				1		
Fort Buford, N. Dak		4											1	
Fort Assiniboine, Mont	6													1
Fort Keogh, Mont			7									1		
Fort Meade, S. Dak			10		1									1
Fort Missoula, Mont	5													
Fort Yates, N. Dak			7		1				1			1		
Fort Randall, S. Dak			1											1
Fort Sully, S. Dak			3											
Fort Yellowstone, Wyo	4													
Fort Pembina, N. Dak		2												
Camp Poplar River, Mont		2												
Total	15	26	28	1	2	3	1	2	2	1	1	3	1	4

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department in the departments, etc.*—Continued.

Posts.	Regular supplies.			Incidental expenses.											
	Agent, $100.	Forage-master, $100.	Forage-master, $75.	Clerks, $150.	Clerks, $133.33.	Clerks, $116.66.	Clerk, $100.	Copyist, $60.	Draftsman, $133.33.	Draftsman, $60.	Guide, $150.	Interpreter, $75.	Interpreter, $60.	Laborers, $35.	Messenger, $75.
Department of the Platte.															
Headquarters, fort and depot, Omaha, Nebr	1	1	....	3	5	2	1	1	1	1	....	....	....	5	1
Fort McKinney, Wyo	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....
Fort Robinson, Nebr	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....
Fort Washakie, Wyo	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....
Fort Du Chesne, Utah	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
Total	1	1	1	3	5	2	1	1	1	1	1	1	1	5	1

Posts.	Incidental expenses.						Army transportation.								
	Messenger, $60.	Porter, 50.	Storekeeper, $100.	Watchman, $45.	Watchman, $35.	Barracks and quarters; carpenter, $60.	Blacksmith, $75.	Blacksmith, $60.	Cargodores, $60.	Corral-master, $60.	Engineers, $60.	Packers, $60.	Packers, $50.	Packers, $40.	Packer, chief, $133.33.
Department of the Platte.															
Headquarters, fort and depot, Omaha, Nebr	1	1	1	1	2	....	1	....	....	....	1	1	....	2	....
Fort McKinney, Wyo	....	....	....	....	....	1	....	1	....	....	1	....	1	....	....
Fort Robinson, Nebr	....	....	....	....	....	....	....	1	....	....	1	....	....	....	....
Fort Niobrara, Nebr	....	....	....	....	....	....	....	1	....	....	1	....	1	....	....
Fort Washakie, Wyo	....	....	....	....	....	....	....	1	....	....	1	....	....	....	....
Fort Du Chesne, Utah	....	....	....	....	....	....	....	1	....	....	....	1	....	....	....
Fort D. A. Russell, Wyo	....	....	....	....	....	....	....	1	2	1	1	....	7	....	1
Fort Douglas, Utah	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
Fort Sidney, Nebr	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
Total	1	1	1	1	2	1	1	8	2	1	6	2	9	2	1

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department in the departments, etc.*—Continued.

Posts.	Army transportation.													
	Packmasters, $100.	Plumbers, $60.	Teamsters, $40.	Teamsters, $30.	Transportation agent, $133.33.	Transportation agent, $116.66.	Transportation agents, $100.	Transportation agents, $83.33.	Transportation agent, $75.	Transportation agent, $60.	Transportation agent, $30.	Wheelwright, $75.	Wheelwright, $70.	Wheelwright, $60.
Department of the Platte.														
Headquarters, fort and depot, Omaha, Nebr			3	1	1	1	2	2	1	1	1		1	
Fort McKinney, Wyo				2								1		1
Fort Robinson, Nebr				2										1
Fort Niobrara, Nebr		2		2										1
Fort Washakie, Wyo				1										1
Fort Du Chesne, Utah				1										1
Fort D. A. Russell, Wyo	2			1										1
Fort Douglas, Utah				1										1
Fort Sidney, Nebr				1										1
Total	2	2	3	12	1	1	2	2	1	1	1	1	1	8

Posts.	Regular supplies.						Incidental expenses.							
	Engineer, $85.	Fireman, $35.	Foragemaster, $75.	Foragemaster, $60.	Lamplighter, $30.	Woodsawyer, $30.	Clerks, $150.	Clerks, $133.33.	Clerks, $116.66.	Draftsman, $150.	Fireman, $40.	Laborers, $30.	Mail-carrier, $45.	Messenger, $50.
Department of Texas.														
Headquarters, depot and post, San Antonio, Tex	1	1		1	1	1	2	3	3	1	1	5	1	1
Fort Clark, Tex			1											
Total	1	1	1	1	1	1	2	3	3	1	1	5	1	1

Posts.	Incidental expenses.			Barracks and quarters; carpenter, $70.	Army transportation.									
	Messenger, $45.	Storekeeper, $100.	Watchmen, $40.		Blacksmith, $72.	Blacksmith, $66.	Blacksmiths, $60.	Blacksmith's helper, $40.	Corralmaster, $60.	Engineer, $80.	Engineers, $60.	Foreman, $60.	Foreman, $50.	Packers, $50.
Department of Texas.														
Headquarters, depot and post, San Antonio, Tex	1	1	6	1	1	1		1	1			1		
Fort Clark, Tex											1		1	
Fort Ringgold, Tex							1				1			
Fort McIntosh, Tex							1				1			5
Fort Brown, Tex							1				1			
Fort Sam Houston, Tex							1			1				
Fort Bliss, Tex							1							
Total	1	1	6	1	1	1	5	1	1	1	4	1	1	5

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department in the departments, etc.*—Continued.

Posts.	Army transportation.													
	Packer, $40.	Packmaster, $100.	Painter, $40.	Plumber, $65.	Teamsters, $30.	Transportation agent, $133.33.	Transportation agent, $116.66.	Transportation agent, $83.33.	Transportation agent, $50.	Wagonmaster, $60.	Wheelwright, $79.	Wheelwright, 72.	Wheelwrights, $60.	Wheelwright, $50.
Department of Texas.														
Headquarters, depots and posts, San Antonio, Tex	1	....	1	1	6	1	1	1	1	....	1	1	....	....
Fort Clark, Tex	....	....	....	....	2	....	....	....	....	1	....	....	1	....
Fort Ringgold, Tex	....	....	....	....	1	....	....	....	....	....	....	....	1	....
Fort McIntosh, Tex	....	1	....	....	....	....	....	....	....	....	....	....	....	....
Fort Sam Houston, Tex	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Fort Bliss, Tex	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Camp Pena, Colorado, Tex	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Total	1	1	1	1	9	1	1	1	1	1	1	1	4	1

Posts.	Regular supplies.							Incidental expenses.									
	Coal heaver, $65.	Engineer, $100.	Engineer, $50.	Fireman, $65.	Foragemaster, $100.	Packer, $65.	Storekeeper, $100.	Clerks, $150.	Clerks, $133.33.	Clerks, $116.66.	Clerks, $100.	Clerks, $83.33.	Copyists, $75.	Copyists, $60.	Elevatorman, $60.	Elevatorman, $45.	Gardener, $50.
General Depots, as provided by Army Regulation 1065.																	
New York, N. Y	1	....	....	1	....	1	1	2	3	5	2	....	1	....	1	1	....
Philadelphia, Pa	....	....	....	....	....	....	....	4	3	2	1	2	2	....	....	....	....
Washington, D. C	....	....	....	....	1	....	....	5	3	....	1	....	1	....	....	....	....
Jeffersonville, Ind	....	1	1	....	....	....	....	2	3	1	1	1	1	2	....	....	1
San Francisco, Cal	....	....	....	....	....	....	....	2	2	1	1	....	....	....	....	....	....
St. Louis, Mo	....	....	....	....	....	....	....	4	....	....	....	2	....	....	....	....	....
Total	1	1	1	1	1	1	1	19	14	9	6	5	5	2	1	1	1

Posts.	Incidental expenses.															
	Janitor, $100.	Janitor, $65.	Laborer, $70.	Laborers, $60.	Laborers, $45.	Laborer, 40.	Messengers, $75.	Messengers, $65.	Messengers, $60.	Messenger, $45.	Messenger, $40.	Scrubbers, $60.	Storekeeper, $133.33.	Storekeeper, $116.66.	Storekeeper, $83.33.	Superintendent, $150.
General Depots, as provided by Army Regulation 1065.																
New York, N. Y	1	....	....	1	....	....	....	....	2	....	....	2	....	....	....	....
Philadelphia, Pa	....	....	....	1	....	....	3	....	1	....	....	....	....	....	....	....
Washington, D. C	....	....	1	....	2	1	....	1	1	....	....	....	....	....	....	....
Jeffersonville, Ind	....	....	....	....	....	....	....	....	1	....	1	....	....	1	....	....
San Francisco, Cal	....	1	....	....	....	....	....	1	....	....	....	....	1	....	1	....
St. Louis, Mo	....	....	....	....	1	....	....	....	....	1	....	....	....	....	....	1
Total	1	1	1	2	3	1	3	2	5	1	1	2	1	1	1	1

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department in the departments, etc.*—Continued.

Posts.	Incidental expenses.										Army transportation.					
	Superintendent, $70.	Telephone operator, $75.	Veterinary surgeon, $100.	Watchmen, $75.	Watchman $60.	Watchman, $52.50.	Watchman, $45.	Watchmen, $40.	Cavalry and artillery horses; inspector, $150.	Barracks and quarters; carpenters, $90.	Carpenter, $95.	Carpenter, $75.	Carpenters, $70.	Carpenters, $65.	Carpenter, $60.	Drayman, $70.
General Depots, as provided by Army Regulation 1065.																
New York, N. Y	1			2	1					1	1					1
Philadelphia, Pa												1	1			
Washington, D. C			1													
Jeffersonville, Ind							1	5					1	1	1	
San Francisco, Cal		1			1					1						
St. Louis, Mo						1			1					1		
Total	1	1	1	2	2	1	1	5	1	2	1	1	2	2	1	1

Posts.	Army transportation.														
	Engineer, $100.	Engineer, $75.	Fireman, $50.	Foreman, packers, $80.	Foreman, packers, $70.	Foreman, stables, 70.	Hostler, $60.	Hostlers, $45.	Hostlers, $40.	Laborers, $54.	Laborer, $45.50.	Marker, $65.	Marker, $40.	Master baler, $75.	Master packer, $83.33.
General Depots, as provided by Army Regulation 1065.															
New York, N. Y	1						1								
Philadelphia, Pa										13		1		1	1
Washington, D. C						1		3	5						
Jeffersonville, Ind		1	1	1	1								1		
St. Louis, Mo											1				
Total	1	1	1	1	1	1	1	3	5	13	1	1	1	1	1

Posts.	Army transportation.															
	Packers, $75.	Packers, $70.	Packers, $60.	Packers, $54.	Packer, $50.	Packers, $45.50.	Packers, $40.	Packer, chief, $100.	Painter, $60.	Saddler, $75.	Shipper, $116.66.	Shipper, $83.33.	Stable-master, $65.	Storekeeper, $100.	Superintendent, $133.33.	Superintendent, $85.
General Depots, as provided in Army Regulation 1065.																
New York, N. Y																1
Philadelphia, Pa			7	11							1	1	1			
Washington, D. C		1													1	
Jeffersonville, Ind		1			1		19		1	1				1		
San Francisco, Cal	3															
St. Louis, Mo	1		1			5		1								
Total	4	2	8	11	1	5	19	1	1	1	1	1	1	1	1	1

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department in the departments, etc.*—Continued.

Posts.	Army transportation.													
	Superintendent, $45.	Teamster, $70.	Teamster, $65.	Teamsters, $60.	Teamster, $55.	Teamster, $54.	Teamsters, $50.	Teamsters, $45.	Teamsters, $40.	Transportation agents, $133.33.	Transportation agents, $116.66.	Transportation agent, $100.	Watchmen, $50.	Weighmaster, $50.
General Depots, as provided in Army Regulation 1065.														
New York, N. Y	....	....	....	....	....	....	....	1	....	1	....	....	....	....
Philadelphia, Pa	....	....	....	2	....	1	....	....	....	....	....	....	....	....
Washington, D. C	....	....	....	....	1	....	2	1	8	....	....	....	2	....
Jeffersonville, Ind	....	....	....	....	....	....	....	1	4	....	1	....	....	1
San Francisco, Cal	....	1	1	....	....	....	....	....	....	1	....	1	....	....
St. Louis, Mo	1	....	....	....	....	....	....	2	....	1	2	....	....	....
Total	1	1	1	2	1	1	2	5	12	3	3	1	2	1

Posts.	Clothing and equipage.															
	Assistant foreman, cutters, $95.	Carpenter, $75.	Carpenter, $65.	Chief cutter, $100.	Clerks, $150.	Clerks, $133.33.	Clerks, $116.66.	Clerks, $100.	Clerk, $83.33.	Copyists, $75.	Cutters, $78.	Engineer, $100.	Fireman, $60.	Folder, $40.	Folders, $35.	Foreman cutters, $125.
General Depots, as provided by Army Regulation 1065.												1				
Philadelphia, Pa	1	....	....	....	....	1	1	1	....	2	....		1	....	....	1
Jeffersonville, Ind	....	....	....	....	1	....	2	1	....	....	....	....	....	1	....	....
San Francisco, Cal	....	1	....	1	1	1	....	....	1	....	....	....	....	....	3	....
St. Louis, Mo	....	....	1	....	....	....	1	2	....	....	4	....	....	....	....	....
Total	1	1	1	1	2	2	4	4	1	2	4	1	1	1	3	1

Posts.	Clothing and equipage.														
	Inspectors, $150.	Inspector, $133.33.	Inspectors, $100.	Inspector, $83.33.	Laborers, $54.	Packer, $90.	Packers, $70.	Packers, $60.	Trimmer, $75.	Trimmers, $60.	Warehouse men, $133.33.	Watchman, $85.	Watchmen, $70.	Watchmen, $60.	Watchman, $52.50.
General Depots, as provided by Army Regulation 1065.															
Philadelphia, Pa	1	....	2	....	14	....	....	....	1	2	1	1	3	2	....
Jeffersonville, Ind	1	....	....	1	....	....	....	....	....	1	....	....	....	....	....
San Francisco, Cal	....	1	1	....	....	1	4	7	....	....	1	....	....	1	....
St. Louis, Mo	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Total	2	1	3	1	14	1	4	7	1	3	2	1	3	3	1

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department in the departments, etc.*—Continued.

Posts.	Regular supplies.		Incidental expenses.								
	Engineer, $75.	Fireman, $35.	Clerk, $150.	Clerks, $133.33.	Clerks, $116.66.	Clerk, $100.	Clerk, $29.16.	Clerk, $25.	Copyist, $50.	Engineer, $45.	Farrier, $120.
Independent Posts.											
Springfield Armory, Mass								1			
Augusta Arsenal, Ga							1				
West Point, N. Y				1	1						
Hot Springs, Ark					1						
Atlanta, Ga			1			1					
Columbus Barracks, Ohio	1	1		1							
Davids Island, N. Y				1						1	
Jefferson Barracks, Mo				1					1		1
Total	1	1	1	4	2	1	1	1	1	1	1

Posts.	Incidental expenses.				Army transportation.									
											Steam launch Hamilton.			
	Laborer, $40.	Messenger, $60.	Messenger, $50.	Watchman, $35.	Engineer, $60.	Engineer, $75.	Plumber, $75.	Teamster, $40.	Teamster, $35.	Transportation agent, $83.33.	Deck hand, $50.	Engineer, $80.	Fireman, $50.	Master, $100.
Independent Posts.														
Frankford Arsenal, Pa										1				
Fort Snelling, Ordnance Depot, Minn				1					1					
Hot Springs, Ark	1	1						1						
Atlanta, Ga			1											
Davids Islands, N. Y					1						1	1	1	1
Jefferson Barracks, Mo						1	1							
Total	1	1	1	1	1	1	1	1	1	1	1	1	1	1

RECAPITULATION.

From what appropriation paid.	Number of employés.	Monthly pay.	Yearly pay.
Department of the East:			
Regular supplies	1	$75.00	$900.00
Incidental expenses	36	3,599.64	43,195.68
Barracks and quarters	3	180.00	2,160.00
Army transportation	60	3,506.66	42,079.92
Total	100	7,361.30	88,335.60
Department of California:			
Regular supplies	5	300.00	3,600.00
Incidental expenses	13	1,363.32	16,359.84
Barracks and quarters	1	125.00	1,500.00
Army transportation	34	2,243.33	26,919.96
Total	52	4,031.65	48,379.80

D.—*Statement showing the number of civilians employed by the month and paid by the Quartermaster's Department in the departments, etc.*—Continued.

From what appropriation paid.	Number of employés.	Monthly pay.	Yearly pay.
Department of Arizona:			
Regular supplies	7	$420.00	$5,040.00
Incidental expenses	15	1,571.64	18,859.68
Army transportation	67	3,908.33	46,899.96
Total	89	5,899.97	70,799.64
Department of the Columbia:			
Regular supplies	7	300.00	3,600.00
Incidental expenses	10	1,096.65	12,159.80
Barracks and quarters	1	80.00	960.00
Army transportation	43	2,523.33	30,279.96
Total	61	3,999.98	47,999.76
Department of the Missouri:			
Regular supplies	13	830.00	9,960.00
Incidental expenses	36	3,451.64	41,419.68
Barracks and quarters	3	180.00	2,160.00
Army transportation	105	5,323.66	63,883.92
Clothing and equipage	3	316.66	3,799.92
Total	160	10,101.96	121,223.52
Department of Dakota:			
Regular supplies	8	580.00	6,960.00
Incidental expenses	32	2,673.33	32,079.96
Barracks and quarters	5	380.00	4,560.00
Army transportation	127	6,490.67	77,888.04
Total	172	10,124.00	121,488.00
Department of the Platte:			
Regular supplies	3	275.00	3,300.00
Incidental expenses	27	2,483.33	29,799.96
Barracks and quarters	1	60.00	720.00
Army transportation	70	3,951.67	47,420.04
Total	101	6,770.00	81,240.00
Department of Texas:			
Regular supplies	6	315.00	3,780.00
Incidental expenses	25	1,870.00	22,440.00
Barracks and quarters	1	70.00	840.00
Army transportation	46	2,618.33	31,419.96
Total	78	4,873.33	58,479.96
General depots:			
Regular supplies	7	545.00	6,540.00
Incidental expenses	104	10,058.16	120,697.92
Cavalry and artillery horses	1	150.00	1,800.00
Barracks and quarters	2	180.00	2,160.00
Army transportation	136	7,902.15	94,825.80
Clothing and equipage	77	5,955.50	71,466.00
Total	327	24,790.81	297,489.72
Independent posts:			
Regular supplies	2	105.00	1,260.00
Incidental expenses	17	1,470.82	17,649.84
Army transportation	10	668.33	8,019.96
Total	29	2,244.15	26,929.80
Total amount by appropriation:			
Regular supplies	58	3,745.00	44,940.00
Incidental expenses	315	29,638.53	355,662.36
Cavalry and artillery horses	1	150.00	1,800.00
Barracks and quarters	17	1,255.00	15,060.00
Army transportation	698	39,136.46	469,637.52
Clothing and equipage	80	6,272.16	75,265.92
Total	1,169	80,197.15	962,365.80

E.—Statement showing the amounts expended by officers of the Quartermaster's Department during and on account of the appropriations for the fiscal year 1892, and balances in their hands so far as shown by accounts received at this office.

Names of officers.	Expenditures.	Balances.
Atwood, E. B., major and quartermaster	$58,820.52	$7,258.63
Arnold, I., jr., major, Ordnance Department	914.21	.....
Atkinson, B. W., lieutenant Sixth Infantry	3,099.96	.....
Avery, F. P., lieutenant Third Infantry	1,558.71	.....
Aleshire, J. B., lieutenant First Cavalry	22,157.41	.....
Anglum, D. F., lieutenant Twelfth Infantry	15,221.47	128.38
Adams, G., lieutenant Fifth Artillery	26,153.90	156.27
Andrus, F. B., lieutenant Fourth Infantry	8,210.92	724.91
Allen, H. T., lieutenant Second Cavalry	458.20	.....
Ayer, W. E., lieutenant Eleventh Infantry	11,051.93	4,349.67
Bingham, J. D., colonel, assistant quartermaster-general	17,939.56	11,104.47
Belcher, J. H., major and quartermaster	62,395.86	.....
Barnett, C. R., captain and assistant quartermaster	43,868.54	2,644.48
Bird, C., captain and assistant quartermaster	74,218.30	3,805.50
Booth, C. A., captain and assistant quartermaster	131,08[illegible].08	.....
Barrett, A., captain and military storekeeper, Quartermaster's Department	128,569.93	149.09
Baker, F., captain, Ordnance Department	2,222.35	.....
Bryant, C., major, Ordnance Department	1,048.34	.....
Butler, J. G., major, Ordnance Department	1,044.91	6.40
Burnham, W. P., lieutenant Sixth Infantry	206.45	.....
Bandholtz, H. H., lieutenant Sixth Infantry	1,715.24	.....
Beall, F. M. M., lieutenant Eighteenth Infantry	876.69	.....
Beckurts, C. L., lieutenant Sixth Infantry	983.14	.....
Bailey, C. J., lieutenant First Artillery	11,545.22	4,072.68
Byrne, B. A., lieutenant Sixth Infantry	41.22	.....
Beach, F. H., lieutenant Sixth Cavalry	1,021.70	.....
Barbour, J. L., lieutenant Seventh Infantry	227.30	.....
Brooke, E. H., lieutenant Twenty-first Infantry	3,456.88	467.51
Brant, L. P., lieutenant First Infantry	2,398.71	.....
Bigelow, J., jr., lieutenant Tenth Cavalry	1,377.35	.....
Baxter, J., jr., lieutenant Ninth Infantry	7,456.18	.....
Beach, W. D., lieutenant Third Cavalry	391.21	.....
Barnum, M. H., lieutenant Third Cavalry	272.10	.....
Blatchford, R. M., lieutenant Eleventh Infantry	793.30	.....
Buck, W. L., lieutenant Thirteenth Infantry	8,353.42	685.54
Borup, H. D., captain, Ordnance Department	547.88	13.81
Bingham, T. A., captain Engineer Corps	792.74	36.76
Benjamin, E. E., lieutenant First Infantry	704.82	1.65
Bullock, E. C., lieutenant Seventh Cavalry	13,675.20	.....
Bethel, W. A., lieutenant Fourth Artillery	427.89	.....
Bennett, C. A., lieutenant Third Artillery	621.40	75.50
Brett, L. M., lieutenant Second Cavalry	[illegible]	.....
Chandler, J. G., lieutenant colonel and deputy quartermaster-general	56,218.43	23,304.18
Campbell, L. E., captain and assistant quartermaster	89,154.86	.....
Clem, S. L., captain and assistant quartermaster	39,823.90	3,169.48
Chase, C., captain and assistant quartermaster	67,512.54	5,678.02
Comly, C., major, Ordnance Department	309.57	.....
Clarke, P. H., lieutenant Ninth Cavalry	445.60	.....
Catlin, E. H., lieutenant Second Artillery	2,178.24	.....
Croxton, R. C., lieutenant Fifth Infantry	11,184.91	4,226.00
Clay, T. J., lieutenant Tenth Infantry	1,511.86	.....
Cooke, G. F., lieutenant Fifteenth Infantry	1,720.63	.....
Cowles, W. H., lieutenant Sixteenth Infantry	12,995.82	.....
Chrisman, E. R., lieutenant Second Infantry	75.73	.....
Carleton, G., lieutenant Second Cavalry	13,170.07	454.75
Carnahan, E. C., lieutenant Twelfth Infantry	563.90	.....
Cronin, M. D., lieutenant Twentieth Infantry	1,853.23	89.44
Cabell, H. C., lieutenant Fourteenth Infantry	8,163.13	417.20
Coates, E. M., major Nineteenth Infantry	1,280.56	269.09
Curtis, E. S., lieutenant Second Artillery	381.82	.....
Crawford, M., lieutenant Second Artillery	631.86	3,476.60
Dandy, G. B., lieutenant-colonel and deputy quartermaster-general	189,826.20	65,092.88
Dunn, B. W., lieutenant, Ordnance Department	2,752.23	39.98
Daniel, L., lieutenant Sixth Cavalry	5,454.27	.....
Duncan, G. B., lieutenant Ninth Infantry	8,447.43	.....
Dyer, A. B., lieutenant Fourth Artillery	226.89	.....
Davis, W. C., lieutenant Fifth Artillery	8,148.34	.....
Ewers, E. P., captain Fifth Infantry	400.00	.....
Emery, J. A., lieutenant Eleventh Infantry	7,011.16	66.30
Eckerson, T. H., lieutenant Nineteenth Infantry	619.26	.....
Eldridge, B., lieutenant Tenth Infantry	7,667.44	.....
Edwards, E. A., lieutenant Twenty-fifth Infantry	9,611.69	107.68
Eltonhead, F. E., lieutenant Twenty-first Infantry	1,478.57	255.30
Foster, C. W., major and quartermaster	967.06	.....
Furey, J. V., major and quartermaster	401,226.30	38,518.67
Forsyth, L. C., major and quartermaster	22,034.96	1,250.93
Floyd, D. H., captain and assistant quartermaster	165,662.63	.....
Foster, A. B., lieutenant Nineteenth Infantry	101.68	.....

E.—*Statement showing the amounts expended by officers of the Quartermaster's Department during the fiscal year 1892, etc.*—Continued.

Names of officers.	Expenditures.	Balances.
French, J. T., jr., lieutenant Fourth Artillery	$10,518.71	
Foster, F. W., lieutenant Fifth Cavalry	26,754.59	
Flynn, W. F., lieutenant Eighth Cavalry	1,964.03	
Farnsworth, C. S., lieutenant Twenty-fifth Infantry	9,667.20	
Febiger, L., lieutenant Twenty-third Infantry	6,291.08	$1,475.82
Frederick, D. A., lieutenant Seventh Infantry	621.44	10.92
Ferris, F. O., lieutenant First Infantry	6,756.25	1,259.50
Farber, C. W., lieutenant Eighth Cavalry	226.25	
Grealish, M. J., captain, Ordnance Department	1,174.00	
Geary, W., lieutenant Nineteenth Infantry	3,858.60	39.23
Gifford, J. H., lieutenant Second Artillery	70.15	
Greene, L. D., lieutenant Seventh Infantry	5,397.06	
George, C. P., lieutenant Sixteenth Infantry	3,448.90	
Green, J. O., lieutenant Twenty-fifth Infantry	774.11	
Getty, R. N., lieutenant Twenty-second Infantry	13,685.48	1,257.94
Gerlach, W., captain Third Infantry	1,516.39	
Gatley, G. G., lieutenant Fifth Artillery	3,851.57	
Gallup, C. C., lieutenant Fifth Artillery	4,410.95	25.16
Gresham, J. C., lieutenant, Seventh Cavalry	174.38	
Galbraith, W. W., lieutenant, Fifth Artillery	2,302.99	.35
Guthrie, J. B., captain, Thirteenth Infantry	131.83	
Hughes, W. B., lieutenant-colonel and deputy quartermaster-general	242,188.77	61,920.73
Humphrey, C. F., captain and assistant quartermaster	212,968.45	30,203.98
Hathaway, F. H., captain and assistant quartermaster	108,420.47	9,980.81
Haynsworth, H. J., captain and assistant quartermaster	12,151.93	
Hoyt, G. S., captain and assistant quartermaster	70,171.85	2,112.85
Hyde, J. McE., captain and assistant quartermaster	32,208.91	11,618.24
Hinds, E., lieutenant, Second Artillery	2,983.19	
Hobbs, C. W., lieutenant, Third Artillery	17,440.74	64.22
Hubert, E., lieutenant, Eighth Infantry	73.00	
Humphrey, H. D., lieutenant, Twentieth Infantry	913.55	
Hornbrook, J. J., lieutenant, Second Cavalry	5,159.89	146.30
Hovey, H. W., lieutenant, Twenty-fourth Infantry	10,007.13	91.30
Howland, C., lieutenant, Fourth Infantry	2,605.45	
Hardin, C. B., lieutenant, Eighteenth Infantry	66.50	
Hay, W. H., lieutenant, Third Cavalry	1,255.40	29.14
Hine, C. DeL., lieutenant, Sixth Infantry	1,075.26	.50
Hearn, L. J., lieutenant, Twenty-first Infantry	3,310.56	
Hammond, A. G., lieutenant, Eighth Cavalry	11,517.80	
Hatch, E. E., lieutenant, Eighteenth Infantry	3,569.60	1,088.91
Horn, T. N., lieutenant, Second Artillery	2,967.50	1,550.00
Hart, W. H., lieutenant, Fourth Cavalry	4,795.71	1,529.40
Hein, O. L., captain, First Cavalry	359.00	
Hancock, W. F., lieutenant, Fifth Artillery	216.97	383.70
Ingalls, C. H., captain and assistant quartermaster	81,999.13	2,639.36
Irons, J. A., lieutenant, Twentieth Infantry	9,535.92	192.56
Jacobs, J. W., captain and assistant quartermaster	89,236.52	12,264.45
Jones, F. B., captain and assistant quartermaster	219,620.65	79,701.56
Jervey, H., lieutenant, Engineer Corps	18,672.61	17,836.15
Jones, S. R., captain and assistant quartermaster	20,205.63	6,510.25
Johnson, W. H., jr., lieutenant, Sixteenth Infantry	72.00	
Johnson, F. O., lieutenant, Third Cavalry	13,364.22	67.85
Johnson, W. O., lieutenant, Nineteenth Infantry	1,142.56	27.30
Johnston, J. A., lieutenant, Eighth Cavalry	8,875.09	
Johnson, C. P., lieutenant, Tenth Cavalry	7,183.18	
Kirk, E. R., major and quartermaster	48,412.94	1,783.76
Kimball, A. S., major and quartermaster	136,089.58	
Krayenbuhl, M. G., lieutenant, Second Artillery	313.30	
Krug, F. V., lieutenant, Eighth Infantry	500.65	
Kirkman, G. W., lieutenant, First Infantry	1,135.04	
Kimball, W. A., lieutenant, Fourteenth Infantry	4,403.40	67.50
Kernan, F. J., lieutenant, Twenty-first Infantry	874.26	
Lee, J. G. C., major and quartermaster	118,428.61	51,332.39
Lord, J. H., major and quartermaster	163,943.07	7,212.76
Lamoreux, T. B., lieutenant, Fourth Artillery	5,096.66	
Loveridge, E. L., lieutenant, Eleventh Infantry	4,396.94	115.48
Ladd, E. F., lieutenant, Ninth Cavalry	20,837.56	1,828.67
Littebrant, W. T., lieutenant, Tenth Cavalry	1,748.85	
Langhorne, G. T., lieutenant, Third Cavalry	1,795.35	
Lewis, E. M., lieutenant, Eleventh Infantry	7.98	
Lockett, J., lieutenant, Fourth Cavalry	248.54	209.96
Moore, J. M., lieutenant-colonel and deputy quartermaster-general	136,038.11	1,238.95
McGonnigle, A. J., major and quartermaster	40,783.62	5,416.09
Marshall, J. M., major and quartermaster	8,274.52	863.28
McCauley, C. A. H., captain and assistant quartermaster	73,559.54	
Miller, W. H., captain and assistant quartermaster	36,361.14	34.40
Martin, M. C., captain and assistant quartermaster	130,576.73	41,259.30
Morgan, A. S. M., captain, Ordnance Department	665.93	19.19
MacNutt, I., captain, Ordnance Department	1,479.90	
Martin, J. T., lieutenant, Fourth Artillery	524.03	

E.—*Statement showing the amounts expended by officers of the Quartermaster's Department during the fiscal year 1892, etc.*—Continued.

Names of officers.	Expenditures.	Balances.
Miller, S. W., lieutenant, Fifth Infantry	$2,826.75	$29.06
McFarland, M., lieutenant, Twenty-first Infantry	2,595.44	35.21
Mercer, W. A., lieutenant, Eighth Infantry	17,250.72	149.78
McCarthy, D. E., lieutenant, Twelfth Infantry	375.45	.....
Murphy, J., lieutenant, Fourteenth Infantry	7,521.55	.....
McClure, N. F., lieutenant, Fourth Cavalry	2,064.59	201.00
McDonald, J. B., lieutenant, Tenth Cavalry	14,246.79	966.42
Martin, C. H., lieutenant, Fourteenth Infantry	83.20	.....
Morton, C. G., lieutenant, Sixth Infantry	2,223.04	.....
Maney, J. A., lieutenant, Fifteenth Infantry	4,413.75	287.61
Moore, G. D., lieutenant, Eighteenth Infantry	217.86	.....
Montgomery, G., lieutenant, Second Artillery	29.59	.....
Morrison, C. C., captain, Ordnance Department	1,283.74	.....
McCaskey, E. W., lieutenant, Twenty-first Infantry	1,898.60	.....
Mills, A. L., lieutenant, First Cavalry	2,195.79	247.99
McGinniss, J. R., major, Ordnance Department	261.91	.....
Normoyle, J. E., lieutenant, Twenty-third Infantry	4,448.97	.....
Neary, W. C., lieutenant, Third Infantry	987.03	.....
Ostheim, L., lieutenant, Second Artillery	3,147.74	.....
O'Brien, J. J., lieutenant, Fourth Infantry	10,782.91	77.17
Perry, A. J., colonel and assistant quartermaster-general	84,572.62	1,043.95
Pond, G. E., captain and assistant quartermaster	17,028.35	713.48
Pullman, J. W., captain and assistant quartermaster	54,218.62	7,374.27
Pope, J. W., captain and assistant quartermaster	68,766.70	3,427.34
Patterson, R. H., lieutenant, First Artillery	12,646.58	484.25
Peirce, W. S., lieutenant, Second Artillery	258.80	.....
Palmer, A. M., lieutenant, Twenty-fourth Infantry	61,252.19	35,761.13
Plummer, E. H., lieutenant, Tenth Infantry	7,585.70	.....
Pierce, P. E., lieutenant, Sixth Infantry	4,558.02	.....
Post, J. C., major, Engineers Corps	347.84	.....
Phipps, F. H., major, Ordnance Department	378.04	.....
Pettit, J. S., captain, First Infantry	2,415.64	.....
Palmer, F. L., lieutenant, Twenty-first Infantry	887.54	2,339.51
Pitman, J., captain, Ordnance Department	610.37	9.00
Robinson, A. G., lieutenant-colonel and deputy quartermaster-general	16,833.36	6,122.86
Rockwell, A. F., major and quartermaster	294,816.88	1,114.85
Ruhlen, G., captain and assistant quartermaster	4,650.28	372.87
Robinson, W. W., jr., captain and assistant quartermaster	41,833.72	3,894.42
Rexford, W. H., captain, Ordnance Department	2,362.38	3.60
Rockwell, J., jr., captain, Ordnance Department	3,331.48	57.04
Reilly, J. W., major, Ordnance Department	248.77	.....
Roberts, H. L., lieutenant, Nineteenth Infantry	6,927.86	222.01
Roach, G. H., lieutenant, Seventeenth Infantry	21,179.39	.....
Rogers, J. S., lieutenant, Twentieth Infantry	2,058.20	.....
Reichman, C., lieutenant, Ninth Infantry	692.60	.....
Reilly, H. J., lieutenant, Fifth Artillery	3,975.15	.....
Rivers, T. R., lieutenant, Third Cavalry	1,873.21	7.96
Ripley, H. L., lieutenant, Third Cavalry	1,233.83	132.75
Ryan, J. P., lieutenant, Third Cavalry	568.89	.....
Reed, H. A., lieutenant, Second Artillery	1,079.36	345.00
Sawtelle, C. G., lieutenant-colonel and deputy quartermaster-general	589,497.69	178,992.06
Scully, J. W., major and quartermaster	67,179.88	5,990.92
Smith, G. C., major and quartermaster	230,664.92	12,354.07
Simpson, J., major and quartermaster	23,172.65	2,397.47
Summerhayes, J. W., captain and assistant quartermaster	180,865.03	19,158.73
Stevens, R. R., lieutenant, Sixth Infantry	10,992.68	744.60
Shattuck, A. B., lieutenant, Sixth Infantry	214.00	.....
Schumm, H. C., lieutenant, Second Artillery	11,918.67	.....
Safford, M. B., lieutenant, Thirteenth Infantry	2,258.10	.....
Scott, H. L., lieutenant, Seventh Cavalry	12,375.49	.....
Sharpe, A. C., lieutenant, Twenty-second Infantry	358.75	.....
Starr, C. G., lieutenant, First Infantry	1,265.01	.....
Sargent, H. H., lieutenant, Second Cavalry	1,619.17	.....
Smith, A. L., captain, Fourth Cavalry	8,805.36	.....
Schofield, R. McA., lieutenant, Fourth Cavalry	67.50	.....
Scott, D. M., captain, Subsistence Department	26,983.99	.....
Stotsenburg, J. M., lieutenant, Sixth Cavalry	13,428.11	150.89
Strother, L. H., lieutenant, First Infantry	1,112.45	.....
Shollenberger, J. H., lieutenant, Tenth Infantry	4,244.91	20.16
Stone, W. P., lieutenant, Fourth Artillery	1,671.67	3,828.33
Simpson, W. L., lieutenant, Ninth Infantry	104.36	190.39
Smith, O. M., captain, Subsistence Department	5,752.18	2,690.79
Scott, A. B., lieutenant, Thirteenth Infantry	5,419.01	2,837.36
Stiles, D. F., captain, Tenth Infantry	403.75	.....
Stottler, V. E., lieutenant, Tenth Infantry	3,479.72	76.95
Seyburn, J. R., lieutenant, Twenty-fourth Infantry	744.05	1,105.95
Shuttleworth, E. A., lieutenant, Eleventh Infantry	1,605.54	49.00
Tompkins, C. H., colonel and assistant quartermaster-general	64,277.52	18,675.11
True, T. E., captain and assistant quartermaster	161,723.50	.....
Turner, R. B., lieutenant, Sixth Infantry	157,796.18	10,890.96

E.—*Statement showing the amounts expended by officers of the Quartermaster's Department during the fiscal year 1892, etc.*—Continued.

Names of officers.	Expenditures.	Balances.
Torrey, Z. W., lieutenant, Sixth Infantry	$8,083.53	$57.89
Townsley, C. P., lieutenant, Fourth Artillery	6,757.00	740.74
Taylor, C. W., lieutenant, Ninth Cavalry	8,359.28	204.69
Turner, W. J., captain, Second Infantry	5,955.77	.....
Torney, G. H., captain, Medical Department	656.18	.....
Thompson, J. T., lieutenant, Ordnance Department	3,451.90	89.18
Taylor, J. R. M., lieutenant, Seventh Infantry	79.63	.....
Tillson, J. C. F., lieutenant, Fifth Infantry	4,919.39	5,358.98
Thompson, C. B., captain and assistant quartermaster	6,937.62	9,482.34
Vogdes, C. B., lieutenant, First Infantry	4,075.06	7,373.54
Varney, A. L., major, Ordnance Department	222.44	.....
Weeks, G. H., lieutenant-colonel and deputy quartermaster-general	228,243.84	50,765.95
Williams, C. W., captain and assistant quartermaster-general	43,615.83	393.22
Wheeler, D. D., captain and assistant quartermaster-general	191,220.91	22,197.44
Williams, J. R., lieutenant, Third Artillery	370.15	.....
Wotherspoon, W. W., lieutenant, Twelfth Infantry	4,168.22	.....
Webster, F. D, lieutenant, Sixth Infantry	3,186.24	50.09
Weaver, E. M., jr., lieutenant, Second Artillery	17,711.13	4,200.97
Woodward, C. G., lieutenant, Third Artillery	4,048.21	.....
Williamson, G. McK., lieutenant, Sixth Cavalry	2,121.70	.....
Walker, E. S., lieutenant, Eighth Infantry	16,558.35	247.82
Wilkins, H. E., lieutenant, Second Infantry	147.65	.....
Wills, J. H., lieutenant, Twenty-second Infantry	895.90	.....
Waltz, M. F., lieutenant, Twelfth Infantry	6,025.69	122.69
Williams, A., lieutenant, Third Infantry	21,125.19	1,390.82
Winn, F. L., lieutenant, First Infantry	1,799.15	.....
Wittenmyer, E., lieutenant, Ninth Infantry	869.99	167.98
Warwick, O. B., lieutenant, Eighteenth Infantry	1,765.80	.....
Wood, W. T., lieutenant, Eighteenth Infantry	6,486.30	231.40
White, G. P., lieutenant, Third Cavalry	809.26	.....
Webster, E. K., lieutenant, Second Infantry	4,933.71	.....
Whittemore, J. M., colonel, Ordnance Department	150.70	.....
Winn, J. S., lieutenant, Second Cavalry	3,433.32	182.57
Young, G. S., lieutenant, Seventh Infantry	1,801.59	.....
Zalinski, M. G., lieutenant, Second Artillery	67.90	.....
Total	7,056,294.68	906,212.03

4.

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., July 11, 1892.

Report of Lieut. Col. M. I. Ludington, Deputy Quartermaster-General, U. S. Army, of the clothing and equipage returns branch, C, for the fiscal year ending June 30, 1892.

In this branch returns of clothing and equipage are received, registered, and examined. After examination and the correction of errors they are forwarded to the Second Auditor of the Treasury for final settlement.

There were employed during the greater part of the year nine clerks. The amount of work done in the branch is shown by the following statement:

Work done in Branch C during fiscal year ending June 30, 1892.

Returns on hand June 30, 1891	1,473
Returns received during fiscal year	3,680
	5,153
Returns examined during fiscal year	3,720
Returns on hand June 30, 1892	1,433
Letters written	6,733
Transfers of clothing and equipage verified	29,409
Auditor's settlements registered	1,439
Sales verified	1,995
Circulars addressed	1,000

Respectfully submitted.

M. I. LUDINGTON,
Deputy Quartermaster-General, U. S Army.

5.

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE,
September 15, 1892.

SIR: I have the honor to submit the report of the operations of the clothing supply branch of this office during the fiscal year ending June 30, 1892.

GENERAL DUTIES.

This branch of the office takes action upon all matters pertaining to the purchase and manufacture of clothing and equipage, and of the issues of same to the Army and to the militia of the States and Territories, in conformity with laws and regulations governing the same.

RECEIPTS AND EXPENDITURES.

The sum appropriated by Congress for the purchase and manufacture of clothing was		$1,175,000.00
There was credited to the appropriation on account of issues to the militia of the States and Territories, the sum of		207,897.04
There was placed to the credit of the appropriation from sales to officers, collections by Pay Department on account of clothing overdrawn, and other miscellaneous sources, the sum of		70,680.03
Making a total of		1,453,577.07
There was remitted to officers of the Quartermaster's Department, to the several purchasing and manufacturing depots, and to the Fort Leavenworth military prison, and elsewhere, for the purchase, manufacture and repair of clothing and equipage, the sum of	$1,319,263.18	
There was paid on Treasury settlements the sum of	1,996.37	
		1,321,259.55
Leaving a balance of		132,317.52

in the Treasury of the United States on the 30th of June last, all of which, together with future credits on account of collections by the Pay Department, will be needed to pay outstanding obligations.

The following is a statement, in detail, showing the remittances on account of clothing and equipage during the last fiscal year, viz:

Department of the East	$400.00
Department of Missouri	93.73
Department of Texas	74.85
Department of the Platte	40.25
Department of Dakota	1,803.60
Department of California	81.00
Department of the Columbia	2.00
New York Depot	40.00
Philadelphia Depot	981,314.86
Washington Depot	177.30
Jeffersonville Depot	126,522.25
St. Louis Depot	11,782.67
San Francisco Depot	142,507.34
Columbus Barracks, Ohio	6.00
Willets Point, N. Y. H	25.00
Davids Island, N. Y. H	3.25
United States military prison, Fort Leavenworth, Kans	54,389.08
Tolal	1,319,263.18

PURCHASES AND MANUFACTURES.

The following are the principal articles of clothing and equipage that were manufactured from the materials purchased under contract:

At the Philadelphia, Pa., Depot.

4,688 dress coats, all kinds.
7,929 overcoats, kersey.
22,272 blouses, made and unmade.
10,666 fatigue coats.
46,672 trousers, kersey, for footmen.
13,240 trousers, kersey, for mounted men.
9,765 fatigue trousers.
838 overalls.
8,565 dark blue shirts.
12,193 drawers.
202 tents, conical wall.
56 tents, hospital.
1,196 tents, wall.
1,089 tents, common.
1,910 tents, shelter.

At the Jeffersonville, Ind., Depot.

14,068 blouses, made and unmade.
6,000 fatigue coats.
7,000 fatigue trousers.
1,000 overalls.
4,000 stable frocks.
34,000 drawers.
20,000 dark blue shirts.

At the San Francisco, Cal., Depot.

1,823 dress coats, all kinds.
1,067 overcoats, kersey.
6,337 blouses, made and unmade.
677 fatigue coats.
9,863 trousers, kersey, for footmen.
3,074 trousers, kersey, for mounted men.
2,193 fatigue trousers.
1,843 dark blue shirts.
8,784 drawers.

The approximate amount paid to employés, such as tailors, sewing women, and sailmakers, for making the above articles, after having been cut at the general depots referred to, amounted to about $199,466.46.

At the Fort Leavenworth military prison there were also manufactured from materials purchased after advertisement, the articles of clothing and equipage specified in the following statement which also gives, in detail, the cost of manufacturing the same, viz:

Articles.	Number.	Material.	Prison labor.	Civilian labor.	Royalty.	Total.
Boots, mounted, partly machine-sewed bottoms, pairs	1,501	$4,086.42	$450.50	$165.36	$50.90	$4,753.18
Boots, brass-screwed, pairs	13	28.18	3.50	1.73	.04	33.45
Shoes, campaign, partly machine-sewed bottoms, pairs	20,450½	30,780.82	3,766.62	2,369.56	679.69	37,596.69
Shoes, brass-screwed, pairs	20	27.39	6.00	2.23	.08	35.70
Shoes, calfskin, pairs	100	183.59	20.00	11.12	3.37	218.08
Corn brooms, number	22,375	2,882.11	579.50	.....	.....	3,461.61
Barrack chairs, vulcanized fiber seats, number	4,079	3,412.36	657.25	.....	.....	4,069.61
Total	.....	41,400.87	5,483.37	2,550.00	734.08	50,168.39

In addition to the foregoing there were also manufactured for the Subsistence Department during the past fiscal year 4,000 whisk brooms, the money value of which has been reimbursed by said Department to the appropriation for clothing and equipage.

There was realized at the Fort Leavenworth, Kans., military prison from the sale of scrap leather the sum of $306.33, which under the law was covered into the Treasury to the credit of miscellaneous receipts.

The following are the articles of clothing and equipage and stores that were turned over to the military prison at Fort Leavenworth, Kans., during the last fiscal year, for the value of which the Department will not be reimbursed:

Clothing.	No.	Price.	Amount.
Boots:			
Cavalry ..... pairs..	9	$3.33	$29.97
Brass screwed ..... do...	2	2.29	4.58
Campaign ..... do...	451	2.04	920.04
Shoes:			
Campaign, viscolized leather ..... do...	1	.....	2.04
Brass screwed ..... do...	13	1.63	21.19
Post, sewed ..... do...	5	2.70	13.50
Corn brooms	1,138	.15	170.00
Total	.....	.....	1,162.02
Stores:			
Army wagon tongues	12	2.17	26.04
Total	.....	.....	1,188.06

There were manufactured at the Fort Leavenworth military prison from materials purchased from appropriation for clothing and equipage, and issued to the Alcatraz Island, California, military prison, the following articles of clothing, required for use of convicts in confinement at said prison, viz:

Articles.	No.	Materials.	Labor.	Total.
Blouses	155	$262.08	$77.50	$339.58
Overalls ..... pairs..	130	48.98	13.00	61.98
Trousers ..... do...	350	439.38	175.00	614.38
Drawers ..... do...	350	120.96	29.25	150.21
Shirts	350	398.98	33.93	432.91
Total	.....	1,270.38	328.68	1,599.06

ISSUES TO THE ARMY.

By reference to the statement herewith, the quantities of clothing, equipage, and materials transferred from the general purchasing and manufacturing depots for issue to the Army will be ascertained in detail.

All the supplies were, it is believed, forwarded with promptness.

It has been the constant aim of this Department to keep the goods up to established standards and specifications, and it is believed that there has been no falling off in this respect.

ISSUES TO THE MILITIA.

The accompanying detailed statement shows the quantities of clothing, equipage, and materials issued by the Quartermaster's Department during the last fiscal year, under the act of Congress amending section 1661 of the Revised Statutes.

The value of this property, including the articles of regular supplies furnished and for which the respective appropriations have been reimbursed, is as follows:

States and Territories.	Clothing and equipage.	Regular supplies.
Alabama	$3,200.89	.....
Alaska	101.57	.....
Arizona	2,170.20	.....
Arkansas	4,308.67	.....
California	1,431.96	.....
Colorado	379.37	.....
Connecticut	3,395.86	.....
Delaware	1,458.73	.....
District of Columbia	1,067.26	$30.46
Florida	1,318.60	.....
Georgia	1,885.09	.....
Idaho	2,742.11	.....
Illinois	12,160.77	.....
Indiana	9,924.82	.....
Iowa	2,215.00	.....
Kansas	6,704.93	.....
Kentucky	11,471.33	.....
Maine	2,474.69	.....
Maryland	4,365.19	.....
Massachusetts	19,005.57	.....
Michigan	11,628.21	.....
Minnesota	127.49	.....
Mississippi	458.05	.....
Missouri	15,017.14	.....
Montana	2,135.17	.....
Nebraska	11,143.69	.....
Nevada	1,835.45	.....
New Hampshire	1,343.98	.....
New Jersey	2,142.15	.....
New Mexico	854.04	.....
North Carolina	5,258.61	.....
Ohio	5,573.68	.....
Pennsylvania	55.38	.....
South Carolina	7,088.60	.....
South Dakota	3,646.61	.....
Tennessee	15,000.20	.....
Texas	11,932.62	.....
Vermont	2,501.66	.....
Virginia	8,081.90	.....
Washington	4,357.47	.....
West Virginia	3,707.23	.....
Wisconsin	4,918.52	.....
Wyoming	4,318.12	.....
Total	214,908.58	30.46

The following is the value of property issued gratuitously by this Department during the last fiscal year to the militia of the District of Columbia, under the act of Congress of March 1, 1889:

Clothing and equipage	$1,917.39
Regular supplies	98.33
	2,015.72

COLLECTIONS BY PAY DEPARTMENT.

From a statement furnished this office by the Paymaster-General of the Army, it is ascertained that the collections by the Pay Department from the enlisted men of the Army during the fiscal year ending June 30, 1891, on account of clothing drawn in excess of the established allowances, amounted to $62,737.18, while the amount paid to the enlisted men during the same period on account of clothing undrawn was $345,151.01.

These figures conclusively show that the established allowances, permitting of such a saving, are very liberal.

SALES TO NAVY DEPARTMENT.

By authority of the Secretary of War there were sold to the Navy Department 100 rubber blankets and 400 rubber ponchos, at a total cost of $933, which amount has been placed to the credit of the appropriation for clothing and equipage.

SALES OF CONDEMNED CLOTHING AND EQUIPAGE.

There was realized during the last fiscal year, at the general depots of the Quartermaster's Department and at the military prison at Fort Leavenworth, Kans., from sales of condemned articles and cuttings, the sum of $14,982.23, all of which has been covered into the Treasury of the United States, and credited to miscellaneous receipts.

SALE OF TROUSERS TO UNITED STATES SOLDIERS' HOME.

Under authority of the Secretary of War, of September 3, 1891, there were sold to the governor of the United States Soldiers' Home, this city, for use of the inmates of said Home, 760 pairs of trousers, of obsolete pattern and color, at the special prices established by General Order No. 52 of 1889, amounting to $1,693.

ISSUE TO INDIAN PRISONERS.

There were issued during the last fiscal year, to the Indian prisoners of war in confinement at Mount Vernon Barracks, Ala., either from stock on hand or specially purchased for that purpose, articles of clothing, equipage, and materials to the value of $5,769.72.

As there are no funds from which this department can be reimbursed for the money value of the property referred to, the amount involved will be a total loss to the clothing appropriation.

FORAGE CAPS.

It having been observed that the original standard pattern forage cap, adopted by the Board of Officers convened by Par. 6, Special Order 260, A. G. O., 1871, and prescribed by General Orders, No. 76 of 1872, had gradually been departed from in reducing its height, thereby making it difficult to properly keep the same on the head of the wearer, steps have been taken to again return to the original model. Specifications and new standard samples to conform to the latter have been adopted, and all purchases of caps now or hereafter to be made will be in conformity therewith.

RUBBER BLANKETS AND PONCHOS.

The supply of rubber blankets left on hand at the close of the late war has become exhausted. Of rubber ponchos only 4,597 remained in store on the 30th of June last, which at the present rate of issue will, it is thought, be exhausted during the present fiscal year.

Under a decision of the Secretary of War of May 21, 1889, these articles are issued *gratuitously* to the enlisted men of the Army in order to exhaust the stock and keep it from deterioration.

The subject of providing suitable rubber garments, after the ponchos shall have become exhausted, is now under consideration.

BOOTS AND SHOES.

Much thought and study have been devoted to the subject of providing proper foot wear to the enlisted men of the Army.

Complaints have been made from time to time that the uppers of the shoes furnished are too heavy and that in consequence they are uncomfortable and ill adapted to the service.

Expert and disinterested manufacturers and dealers in leather and shoes have been consulted and the conclusion reached that a heavy calfskin upper, skins to weigh from 55 to 60 pounds to the dozen, would give greater satisfaction than the heavy wax uppers now in use.

It has been further decided to add a narrower shoe to the schedule heretofore in use, and hereafter the widths of the various sizes of shoes furnished will be known as AA, A, B, and C.

A limited number of pairs of calfskin shoes, conforming to the proposed lasts, were procured and distributed for trial.

From reports received it appears that they are considered the best ever issued to the Army and it has been decided to manufacture and issue them to the troops as early as practicable.

CRAVATS.

The attention of this office having been called to the necessity of adopting a suitable necktie to be provided with the linen collars furnished to the enlisted men of the Army, samples of various kinds were procured, resulting in the adopting, by the Secretary of War, of a black tie, made of gros noble silk.

Specifications and standard samples have been obtained and contract for a six months' supply has been entered into. The cravats are issued to the enlisted men at cost price, at the rate of two per annum; but they do not form part of their annual money allowance.

This addition to the clothing supply list has been made part of the regulations and published in General Orders, No. 31, Headquarters of the Army, current series.

KNIT WOOL DRAWERS.

At the request of the commanding general Department of Dakota, setting forth the necessity of supplying woolen drawers for extreme northern posts, purchase of 10,000 pairs, conforming in quality to the knit wool undershirts furnished to the enlisted men of the Army, has been made. Owing to the fact that the request was not made until November last, and as none of the drawers of suitable quality could be found in the market, the supply of these drawers has been somewhat delayed. They will undoubtedly give good service during the coming winter.

LEGGINGS FOR CAVALRY.

It having been pointed out that the mounted troops serving in the Department of Arizona would be much benefited by being permitted to wear canvas leggings, similar to those furnished to foot troops, but somewhat longer in the leg, 100 pairs were purchased and issued for trial at Fort Huachuca, Ariz. From reports received it appears that they have given entire satisfaction.

It is claimed that these leggings, while affording the same protection as the boots, are much lighter and more comfortable in hot climates.

TRUMPETS AND BUGLES.

The question of supplying suitable trumpets and bugles to the Army has, at last, reached a final and, it is believed, satisfactory conclusion. After a careful trial of various samples procured for the purpose, it was found that a G trumpet, with an F slide and a detachable F crook were the best adapted for cavalry as well as for all foot troops, while a Bb bugle, on account of its sharpness of tone, would be best for light batteries. Standard samples of trumpets of excellent workmanship and tone, of domestic manufacture, and specifications conforming thereto, have been adopted.

Contracts for supplying a complete outfit for the Army have been made and instructions given to subject all deliveries to a most careful inspection in order that none but those having a correct pitch shall be accepted. Judging from issues already made it would seem that they give entire satisfaction.

SCRUBBING BRUSHES.

The subject of scrubbing brushes made of vegetable fiber, in place of those made of bristles, has been thoroughly investigated, and it has been decided to purchase the supply of brushes required for the Army during the present fiscal year of a kind known to the trade as "Tampico."

Five hundred vegetable brushes, known as "Palmetto," have also been procured and issued for comparative trial with the Tampico brushes.

A considerable saving will be effected by the adoption of these brushes. Those made of bristles cost 17 cents each, while the price of the Tampico is only 8¾ cents, and of the Palmetto, 11.9 cents each.

WHISTLES.

The new drill regulations adopted for the Army require that whistles be furnished to sergeants, corporals, and musicians. Samples of all kinds were procured and sent to the commanding officers at Fort Myer, Va., and the Washington Barracks, for an expression of opinion as to the best adapted for both the mounted and foot service.

The one selected and approved by the General of the Army has been adopted and a supply procured. They are now being distributed.

BARRACK CHAIRS.

In view of the fact that the barrack chairs heretofore supplied to the Army did not give satisfaction, efforts have been made to secure a model which, combining cheapness with durability, would be an acceptable substitute for the costly standard pattern.

A sample of a strong wooden-seat dining chair was procured and adopted, to govern purchases during the present fiscal year.

Proposals for furnishing 7,000 of these chairs were then invited, and it was found that they could be procured by contract at the following rates: Delivered on board cars at Philadelphia, Pa., at 60 cents each, and at St. Louis, Mo., at 70 cents each. Contracts have been entered into at these prices.

CLERICAL WORK.

The clerical work connected with the clothing supply branch is up to date. All cases receive immediate and prompt attention.

CONCLUSION.

The accompanying statement shows in detail the articles of clothing, equipage, and materials that were on hand at the issuing depots of the Quartermaster's Department on the 30th of June, 1891; also the quantities purchased, manufactured, received from posts and depots, taken up, sold, transferred to general depots, expended, issued to the Army and the militia during the last fiscal year, and the quantities remaining in depot June 30, 1892.

Very respectfully,

M. I. LUDINGTON,
Deputy Quartermaster-General, U. S. Army.

The QUARTERMASTER-GENERAL, U. S. ARMY.

A.—*Statement showing articles of clothing and equipage and material on hand at the issuing depots of the Quartermaster's Department June 30, 1891, the quantities purchased, manufactured, received from posts and depots, taken up, sold, transferred to general depots, expended, issued to the Army and the militia, and the quantities remaining in depots June 30, 1892.*

Articles.	On hand June 30, 1891.	Purchased.	Manufactured.	Received from general depots.	Received from posts.	Gained.	Total received.	Sold.	Transferred to general depots.	Expended or dropped.	Issued to the militia.	Issued to the Army.	Total issued.	Remaining on hand June 30, 1892.
Helmets:														
Untrimmed ..... number..	7,125	10,823	.....	3,456	77	5	21,486	18	4,610	1	1,124	7,238	12,991	8,495
Cork ..... do....	4,519	13,276	.....	3,485	398	.....	21,678	80	4,544	.....	3,563	6,286	14,473	7,205
Helmet, hair plumes ..... do....	6,561	2,027	.....	286	433	.....	9,307	36	236	1	211	1,976	2,460	6,843
cords and bands..... do....	6,809	300	.....	547	576	100	8,332	31	531	1	205	1,780	2,548	5,784
top bases ..... do....	13,988	.....	.....	500	287	.....	14,725	3	500	1	1,201	5,880	7,585	7,140
plume sockets ..... do....	7,441	.....	.....	512	231	.....	8,184	15	500	1	201	1,736	2,453	5,731
spikes ..... do....	8,073	4,000	.....	1,500	205	12	13,790	1	1,500	.....	876	4,735	7,112	6,678
eagles ..... do....	17,098	3,602	.....	1,450	734	.....	22,884	14	1,450	1	1,271	6,254	8,990	13,894
scrolls and rings..... pairs....	20,983	.....	.....	.....	218	.....	21,201	4	.....	2	470	2,517	2,993	18,208
side buttons..... do....	43,656	500	.....	900	1,292	22	46,370	15	900	2	1,900	10,624	13,441	32,929
numbers ..... number..	88,079	20,000	.....	2,000	1,865	83	112,027	3	2,000	.....	868	9,078	11,949	100,078
eagle devices..... do....	6,767	500	.....	20	113	11	7,411	12	120	.....	5	1,258	1,396	6,015
chin straps..... do....	.....	.....	.....	.....	.....	26	26	.....	.....	.....	26	.....	26	.....
Forage caps ..... do....	17,340	55,105	.....	22,434	580	11	95,470	683	22,113	7	11,565	31,185	65,553	29,917
Fur caps ..... do....	5,721	6,280	.....	3,602	452	3	16,058	500	2,431	.....	1	5,833	8,765	7,293
Canvas caps ..... do....	4,255	.....	3,100	.....	2,434	34	9,823	.....	.....	.....	.....	1,362	1,362	8,461
Campaign hats..... do....	27,423	27,070	.....	11,367	347	.....	63,507	27	11,916	.....	5,107	19,950	37,000	26,507
cords and tassels .... do....	26,338	.....	.....	500	2,227	.....	29,115	9	500	.....	1,004	901	2,414	26,701
Forage cap, crossed cannon .... do....	8,563	1,000	.....	150	17	.....	9,730	29	150	.....	358	3,054	3,591	6,139
arrows ..... do....	485	.....	.....	.....	186	.....	671	.....	.....	.....	.....	97	97	574
sabers..... do....	7,099	10,000	.....	1,000	439	.....	18,538	15	1,000	1	459	2,372	3,847	14,691
rifles. ..... do....	21,896	10,000	.....	4,000	653	15	36,564	12	4,000	.....	4,508	8,233	16,753	19,811
castles ..... do....	96	1,500	.....	.....	8	.....	1,604	2	1	.....	.....	365	368	1,234
shells and flames ... do....	2,855	.....	.....	.....	21	2	2,378	27	.....	.....	.....	249	276	2,102
crescents..... do....	2,553	.....	.....	.....	36	.....	2,589	76	.....	.....	.....	35	111	2,478
wreaths ..... do....	1,235	500	.....	50	4	4	1,793	.....	50	.....	1	464	515	1,278
bugles..... do....	31,450	.....	.....	.....	161	12	31,623	.....	.....	.....	125	129	254	31,369
numbers..... do....	133,738	25,000	.....	6,000	7,662	774	173,174	288	6,000	1	8,700	18,597	33,586	139,588
lyres..... do....	3,746	.....	.....	.....	216	.....	3,962	.....	.....	.....	359	288	647	2,315
letters..... do....	117,503	25,000	.....	3,000	7,655	1,018	153,576	3	3,000	1	5,662	16,854	25,520	128,056
Overcoats:														
Kersey, made..... do....	13,581	.....	8,565	4,484	650	6	27,296	22	5,376	1	1,506	8,077	15,082	12,204
unmade..... do....	1,654	.....	431	343	450	54	2,934	3	343	108	.....	999	1,448	1,486
Devices for hospital corps..... do....	7	.....	250	.....	2	7	266	.....	.....	.....	.....	55	55	211
Overcoats, canvas and fur..... do....	2,803	.....	1,000	.....	3,187	52	7,042	14	.....	.....	.....	167	181	6,861
cape linings..... do....	1	.....	903	45	70	14	1,033	164	45	.....	.....	786	995	38

A.—*Statement showing articles of clothing and equipage and material on hand at the issuing depots of the Quartermaster's Department, etc.*—Continued.

Articles.	On hand June 30, 1891.	Purchased.	Manufactured.	Received from general depots.	Received from posts.	Gained.	Total received.	Sold.	Transferred to general depots.	Expended or dropped.	Issued to the militia.	Issued to the Army.	Total issued.	Remaining on hand June 30, 1892.
Uniform dress coats:														
Musicians, made.....number..	1,639	.....	805	67	111	10	2,632	8	67	.....	93	158	326	2,306
Noncommissioned staff and privates, made.....do....	9,960	.....	5,187	1,348	1,171	59	17,725	209	2,123	3	811	5,062	8,208	9,517
Noncommissioned staff and privates, unmade.....do....	2,211	.....	519	180	1,349	127	4,386	262	180	194	.....	1,026	1,662	2,724
Blouses, made.....do....	12,311	.....	25,959	6,934	701	.....	45,905	558	6,362	2	11,468	16,077	34,467	11,438
unmade.....do....	5,173	.....	16,718	6,447	240	10	28,588	23	6,447	20	628	19,789	26,907	1,681
Canvas fatigue coats.....do....	20,969	.....	17,343	.....	1,132	24	39,468	21	.....	.....	94	14,710	14,825	24,643
Summer sack coats.....do....	1,414	.....	23	.....	2,576	.....	4,013	10	.....	.....	.....	731	741	3,272
Linen collars.....do....	164,122	100,000	.....	10,500	2,268	621	277,511	307	21,300	2	.....	63,423	85,032	192,479
Stable frocks.....do....	11,843	.....	4,000	1,900	305	4	18,052	4	1,900	.....	30	3,538	5,472	12,580
Overalls, mounted.....pairs..	15,719	.....	1,838	950	4,298	.....	22,805	5	950	.....	30	4,645	5,630	17,175
engineers'.....do....	581	.....	.....	.....	32	.....	613	16	.....	.....	.....	4	20	593
summer.....do....	480	.....	.....	1,047	.....	.....	1,527	.....	.....	.....	.....	.....	.....	1,527
Trousers:														
Summer.....do....	1,126	.....	59	.....	1,151	.....	2,336	.....	.....	.....	.....	197	197	2,139
Mounted, made.....do....	20,757	.....	7,267	4,444	883	.....	33,351	401	4,594	2	624	6,982	12,603	20,748
unmade.....do....	7,333	.....	9,047	4,850	996	2	22,228	15	5,434	.....	75	10,359	15,883	6,345
Foot, made.....do....	18,721	.....	35,916	15,404	493	118	70,652	976	17,062	1	6,510	23,630	48,178	22,473
unmade.....do....	7,014	.....	20,619	5,021	710	.....	33,364	6	9,516	72	1,234	17,899	28,727	4,637
Canvas, fatigue.....do....	19,283	.....	18,958	2,800	1,227	4	42,272	11	2,800	.....	134	19,055	22,000	20,272
Linen.....do....	969	.....	43	.....	770	1	1,783	215	.....	.....	.....	832	1,047	736
Canvas leggins.....do....	5,678	35,474	.....	9,043	2	2	50,197	313	9,850	.....	8,841	10,235	29,239	20,958
Suspenders.....do....	38,715	15,960	.....	2,500	328	27	57,530	60	1,000	.....	.....	8,806	9,866	47,664
Dark blue flannel shirts:														
Made.....number..	53,266	.....	30,183	7,300	2,210	44	93,033	146	7,300	1	.....	25,485	32,932	60,101
Unmade.....do....	28	.....	225	.....	229	.....	482	.....	.....	.....	.....	225	225	257
Undershirts.....do....	75,000	65,296	.....	15,750	1,744	58	157,848	59	15,750	2	.....	47,336	63,147	94,701
Muslin shirts.....do....	3,105	18,861	.....	172	4	.....	22,142	131	172	1	.....	18,642	18,946	3,196
Drawers.....pairs..	49,044	8,377	54,977	31,500	1,711	55	145,664	105	31,500	1	.....	66,338	97,944	47,720
Stockings:														
Woolen.....do....	101,597	90,023	.....	16,000	81	3	207,704	174	47,000	2	.....	93,330	140,506	67,198
Cotton.....do....	129,613	208,832	.....	53,400	158	.....	392,003	305	77,656	2	.....	157,518	235,481	165,522
Gloves, Berlin.....number..	417,705	308,648	.....	110,000	44	252	836,649	261	158,480	.....	10,348	344,916	514,005	322,644
Mittens:														
Woolen.....pairs..	11,319	.....	.....	.....	3,224	113	14,656	.....	.....	.....	.....	3,143	3,143	11,513
Canvas.....do....	9,641	.....	.....	500	1,651	.....	11,792	.....	500	.....	.....	2,077	2,577	9,215
Gauntlets:														
Fur.....do....	5,269	7,927	.....	4,365	9	3	17,573	8	6,173	1	.....	9,171	15,353	2,220
Leather.....do....	9,429	8,108	.....	2,773	244	.....	20,554	146	601	.....	141	9,338	10,226	10,328

Boots:														
Brass-screwed ..... do....	8,573	.....	13	14	581	.....	9,182	25	.....	.....	.....	312	337	8,845
Sewed ..... do....	17,253	1,947	1,501	3,569	1,168	53	25,443	2	3,371	1	1	5,306	7,681	17,762
Shoes:														
Brass-screwed ..... do....	11,327	.....	20	.....	2,431	10	13,788	1	.....	.....	.....	734	735	13,053
Post ..... do....	1,166	.....	.....	.....	718	.....	1,884	1	.....	.....	.....	39	40	1,844
Field ..... do....	5,059	.....	.....	.....	220	.....	5,279	.....	.....	.....	.....	574	574	4,705
Campaign ..... do....	57,060	9,162	20,550	27,543	1,578	62	115,955	19	27,873	7	.....	41,789	69,888	46,067
Barrack ..... do....	9,732	29,954	.....	13,805	3	12	53,506	28	15,040	1	2	28,061	43,132	10,374
Overshoes, arctic ..... do....	7,957	3,300	.....	1,483	693	59	13,492	3	1,581	.....	.....	4,935	6,519	6,973
Blankets:														
Wool ..... number..	10,565	21,507	.....	10,251	23	.....	42,350	33	9,000	61	1,193	13,165	24,452	17,898
Rubber ..... do....	961	.....	.....	1,007	50	.....	2,018	170	.....	.....	84	1,591	1,845	173
Ponchos ..... do....	10,480	.....	.....	2,500	264	.....	13,244	433	2,500	.....	304	5,410	8,647	4,597
Chevrons:														
Gold lace ..... pairs..	5,315	.....	2,884	136	1,844	283	10,462	355	136	2	178	2,825	3,496	6,966
Cloth ..... do....	13,315	.....	11,184	1,770	1,692	162	28,123	1,334	1,681	11	2,145	10,101	15,273	12,851
Brassards ..... number..	235	.....	2,022	8	.....	8	2,273	8	.....	.....	8	1,959	1,975	298
Aiguilettes and shoulder-knots .. do....	457	275	.....	17	27	.....	776	7	17	.....	149	246	419	357
Trouser stripes:														
Noncommissioned staff ..... pairs..	283	.....	746	75	14	11	1,129	1	75	.....	.....	827	903	226
Sergeants ..... do....	1,895	.....	8,987	3,833	607	.....	15,322	116	4,644	1	824	6,523	12,208	3,114
Corporals ..... do....	4,398	.....	12,679	5,031	1,390	.....	22,698	203	5,705	.....	1,127	11,692	18,727	3,971
Hospital corps ..... do....	40	.....	.....	.....	.....	7	47	4	.....	.....	.....	12	16	31
Facings for dress coats ..... number..	5,555	.....	970	123	2,284	188	9,120	111	123	229	57	1,289	1,809	7,311
Blouse trimmings ..... do....	.....	.....	193	.....	.....	.....	193	3	.....	.....	190	.....	193	.....
Trouser trimmings ..... do....	.....	.....	957	.....	.....	.....	957	17	.....	.....	940	.....	957	.....
Barrack bags ..... do....	1,959	.....	2,742	1,630	399	.....	6,730	75	1,630	.....	.....	3,502	5,207	1,523
Iron bunks ..... do....	1,911	.....	.....	100	335	4	2,350	16	100	.....	.....	800	916	1,434
Bunk slats ..... do....	632	.....	.....	.....	.....	8	640	.....	.....	54	.....	26	80	560
Woven wire bunk bottoms ..... do....	3,277	2,250	.....	2,725	102	77	8,431	234	2,725	.....	.....	1,781	4,740	3,691
Iron bedsteads with bunk bottoms, ... number..	48	2,125	.....	.....	7	.....	2,134	12	.....	.....	150	1,093	1,255	879
Mattresses ..... do....	5,030	.....	.....	1,050	126	.....	6,206	101	1,350	.....	27	1,752	3,230	3,916
Mattress covers ..... do....	9,766	8,000	.....	1,450	393	.....	19,609	37	1,450	.....	.....	5,138	6,625	12,984
Pillows ..... do....	6,498	3,000	.....	2,000	90	.....	11,588	82	2,000	.....	15	3,613	5,710	5,878
Pillow cases ..... do....	14,489	15,017	3,008	11,025	757	38	44,834	64	11,001	.....	15	22,524	33,607	11,227
Pillow sacks ..... do....	2,065	.....	.....	.....	711	.....	2,776	53	.....	12	.....	203	268	2,508
Bed sacks ..... do....	1,041	550	2,325	1,500	187	.....	5,603	61	1,500	.....	1,750	946	4,257	1,346
sheets ..... do....	13,165	52,587	.....	10,500	265	40	76,557	123	9,000	.....	15	14,308	23,446	53,111
Mosquito bars ..... do....	3,121	1,907	.....	1,000	996	10	7,034	11	1.000	.....	.....	4,008	5,019	2,015
head nets ..... do....	580	.....	.....	.....	.....	.....	580	.....	.....	.....	.....	502	502	78
Iron pots ..... do....	920	.....	.....	.....	16	.....	936	.....	.....	.....	.....	14	14	922
Camp kettles ..... do....	3,822	500	.....	363	74	3	4,562	1	.....	.....	114	607	722	4,040
Mess pans ..... do....	48,209	.....	.....	687	46	29	48,971	.....	.....	.....	114	507	621	48,350
Axes ..... do....	3,782	2,300	.....	830	.....	1	6,913	1	800	11	129	2,138	3,079	3,834
Axe helves ..... do....	9,347	6,000	.....	1,200	.....	40	16,587	5	1,200	23	129	5,550	6,907	9,680
slings ..... do....	960	.....	.....	.....	77	.....	1,037	3	.....	.....	.....	15	18	1,019
Hatchets ..... do....	12,661	.....	.....	300	.....	.....	12,961	5	.....	.....	116	654	775	12,186
Hatchet helves ..... do....	8,880	2,000	.....	97	70	13	11,060	6	.....	24	116	1,870	2,016	9.044
slings ..... do....	915	.....	.....	.....	93	.....	1,008	.....	10	.....	20	48	78	930
Spades ..... do....	11,663	350	.....	300	38	122	12,473	.....	.....	.....	59	479	538	11,935

A.—*Statement showing articles of clothing and equipage and material on hand at the issuing depots of the Quartermaster's Department, etc.*—Continued.

Articles.	On hand June 30, 1891.	Purchased.	Manufactured.	Received from general depots.	Received from posts.	Gained.	Total received.	Sold.	Transferred to general depots.	Expended or dropped.	Issued to the militia.	Issued to the Army.	Total issued.	Remaining on hand June 30, 1892.
Spade helves ..... number	41						41							41
slings ..... do	166				54		220	2				21	23	197
Shovels ..... do	3,306	3,152		208		12	6,678	1		9	86	1,694	1,790	4,888
Shovel handles ..... do	77						77							77
Pickaxes ..... do	5,319			478		2	5,799		250		38	610	898	4,901
Pickax helves ..... do	4,117	494		360		1	4,992	1		6	38	1,230	1,275	3,697
slings ..... do	179				31		210	4				24	28	182
Drums ..... do	81	112		25	32		250	6	25		113	44	188	62
Drum heads:														
Batter ..... do	504	7			309		820	11			20	210	241	579
Snare ..... do	1,873	25		50	189		2,137	7	50		70	247	374	1,763
Drum slings ..... do	75	150			57		282	17			129	41	187	95
rods ..... do	281				32		313					24	24	289
sticks ..... pairs	3,659			100	40		3,799	10	100		134	53	297	3,502
stick carriages ..... number	2,456				14		2,470				24	11	35	2,435
snares ..... sets	3,878				88		3,966					36	36	3,930
cases ..... number	29		145	25	32		231	6	95		100	18	149	82
knee rests ..... do	10						10							10
Trumpets ..... do	258	655		316	41	1	1,271	21	315	1	89	635	1,061	210
Trumpet mouth pieces ..... do	52				7	10	69	10					10	59
crooks ..... do	335	369		112	34		850	12	110		36	297	455	395
Bugles ..... do	3	84			10		97				3	27	30	67
Cords and tassels for bugles and trumpets ..... number	1,650	200		186	99	31	2,166	28	186		113	482	809	1,357
Fifes ..... do	2,003			1,133	20		3,156	1	1,133		17	55	1,206	1,950
Music pouches ..... do	285	325			41		651	2	34	1	113	235	385	266
Books:														
Company, letters sent ..... do	128	200		120		7	455		120	1	10	179	310	145
index ..... do	168	100		80	1	9	353		80	2	10	134	226	127
Company, letters received ..... do	130	300		85	1	6	522		105		10	135	250	272
index ..... do	123	300		80	1	8	512		80	2	10	115	207	305
Company order ..... do	289	300		100		2	691		100	1	11	210	322	369
Post, letters sent ..... do	154	100		20			274		20	3		84	107	167
index ..... do	113	100		23			236		23	1		91	115	121
Post, letters received ..... do	136	100		20			256		20	1		107	128	128
index ..... do	143	100		23			266		23	5		101	129	137
Post, order ..... do	233	100		30		4	367		30	1		67	98	269
Post council of administration number	105	100		75			280		75			60	135	145
Regimental, order ..... number	47	50		25	4		126		25	2	1	20	48	78
letters sent ..... do	47	50		20	1		118		20	3	1	27	51	67

letters sent, index, number	59	50		21			130		21		1	29	51	79
letters received, number	44	50		20			114		20		1	24	45	69
letters received, index, number	55	50		20			125		20	1	1	27	49	76
Tents:														
Conical wall ..... number	343		202	117	5		667	1	100		19	41	161	506
Sibley ..... do	168			49			217					20	20	197
Hospital ..... do	228		56	25	6	20	335	21	75		24	25	145	190
Wall ..... do	520		1,196	520	20		2,256	32	470		406	242	1,150	1,106
Common ..... do	2,941		1,039	8	305	133	4,426	155			687	252	1,044	3,382
Shelter halves ..... do	10,570		1,910	4,558			17,038			287		2,578	2,865	14,173
Tent ties:														
Hospital ..... do	195		125	64	3		387	19	64		27	51	161	226
Wall ..... do	703		1,001	413	20		2,137	42	403		351	118	914	1,223
Tent poles:														
Conical, wall, and Sibley ..... do	1,023	200		89	8		1,320	1	6		19	50	76	1,244
Shelter ..... do	5,876			2,599		316	8,791	49				1,207	1,256	7,535
Hospital, upright ..... do	651				22	20	693	96			52	40	188	505
Hospital, ridge ..... do	450				18	10	478	38			26	20	84	394
Wall, ridge ..... do	888	1,400		290	52		2,630	95	250	18	411	205	979	1,651
Wall, upright ..... do	1,951	2,800		582	33	18	5,384	186	500		846	476	2,008	3,376
Common, upright ..... do	16,663			150	294	68	17,175	692			1,542	219	2,453	14,722
Common, ridge ..... do	9,233			79	123	5	9,440	270			771	175	1,216	8,224
Tent pins, wooden, all kinds ..... do	94,474	193,000		17,915		17,601	322,990	570	9,221	18,989	34,987	115,760	179,527	143,463
Straps ..... do	1,136			101	8		1,245	2	3		16	54	75	1,170
Slips, metal ..... do	11,494	42,025					53,519			37,516		2,329	39,845	13,674
Rings ..... do	6,614						6,614			202		4	206	6,408
Rings, Sibley ..... do	67						67							67
Stoves ..... do	900	250		233	3		1,386					27	27	1,359
Stovepipe joints ..... do	2,395	1,500		810		1	4,706					511	511	4,195
Pins, large, iron ..... do		2,500					2,500							2,500
Pins, small, iron ..... do		5,000					5,000							5,000
Tripods ..... do	1,358			89	5		1,452	2	6		19	51	78	1,374
Chains ..... do	667	200					867	2		204		18	224	643
Pole sockets ..... do	232				7		239					5	5	234
Flags:														
Post ..... do	61	223		32			316	8	67	2	8	162	247	69
Garrison ..... do	40				2		42	3			3	17	23	19
Storm and recruiting ..... do	229	400		65	6		700	24	53	10	5	346	438	262
Field hospital ..... do	46		11	2			59		2			13	15	44
General hospital ..... do	2	4					6					3	3	3
Colors:														
National ..... do	1	11					12				6	4	10	2
Regimental ..... do		8					8				6	1	7	1
Camp ..... do	95	100		58		363	616	2	58	375		83	518	98
Guidons:														
Artillery and cavalry ..... do	45	53		2	4		104		2	1	2	58	63	41
Ambulance ..... do	10	28					38					32	32	6
Guidon cases ..... do	2				2		4							4
Standards ..... do	1	1					2					1	1	1

A.—*Statement showing articles of clothing and equipage and material on hand at the issuing depots of the Quartermaster's Department, etc.*—Continued.

Articles.	On hand June 30, 1891.	Purchased.	Manufactured.	Received from general depots.	Received from posts.	Gained.	Total received.	Sold.	Transferred to general depots.	Expended or dropped.	Issued to the militia.	Issued to the Army.	Total issued.	Remaining on hand June 30, 1892.
Color cords and tassels.....number					1		1							1
Color cases.....do....						12	12	6				6	12	
slings and belts.....do....	81				2		83	4			6	4	14	69
staffs.....do....	109	180		52	1		342		50		14	143	207	135
Halliards:														
Garrison and post.....do....	208	250		6		3	467	3			4	89	96	371
Storm and recruiting.....do....	2,133				2		2,135	2				37	39	2,096
Devices.....do....	490	300					790	2		510			512	278
Stencils complete.....do....	116			10	25	1	152					70	70	82
Stencil plates.....do....	48						48	2	10			20	32	16
Company marking stamps.....do....	4	14		4	9	2	33		4			11	15	18
Corn brooms.....do....	6,887	7,000	22,375	20,000	21		56,283	4	21,000	370		37,747	52,121	4,162
Scrubbing brushes.....do....	5,443	11,440		4,500			21,383		6,000	137		13,584	19,721	1,662
Alphabets.....do....	43				1		44		6			4	10	34
Neckties.....do....		30,000					30,000					3,496	3,496	26,504
Numbers.....do....	41				1		42		6			2	8	34
Barrack chairs.....do....	1,235		4,059				5,294					4,591	4,591	703
Card holders.....do....	8,618			2,000		170	10,788		2,000			3,364	5,364	5,424
Hand litters.....do....	144			56			200		56		4	50	110	90
Drum cords.....do....	7	11			8	2	28					14	14	14
Whistles.....do....		8					8			8			8	
Coat buttons, large and small...do....	386,184	837,648		213,596		9,155	1,446,583	2,592	199,296	800,540	576	36,066	1,039,070	407,513
Cloth:														
Dark blue $\frac{6}{4}$.....yards..	7,467	16,393		1,239	342	71	25,519	353	100	11,880	2,189	2,306	16,828	8,691
Facing.....do....	978	4,978					5,956	155	644	1,998	12	338	3,147	2,809
Italian.....do....	2,496	2,699				83	5,278	31	442	3,099	100	25	3,697	1,581
Blanket lining.....do....	55	9,704				183	9,942		10	3,777			3,787	6,155
Doeskin, sky-blue.....do....	114	808					922	566	98				664	258
Drilling.....do....	7,006	101,848		5,578		4,730	119,162	1	5,578	99,412		380	105,371	13,791
Duck:														
Cotton.....do....	106,883	175,863				224	282,970	26		194,537		528	195,091	87,879
Brown.....do....	18,725	74,853					93,578	1		80,658		26	80,865	12,893
White.....do....	41	79,634					79,675	27		34,355		5	34,387	45,288
Flannel:														
Canton.....do....	35,395	120,923		500	55	10,788	167,661	101	500	140,255		6,354	147,210	20,451
Dark blue blouse (A Sard fine) do....	36,209	59,207		1,683	1,468	8,562	107,129	215	1,722	95,778	3,614	2,494	103,823	3,306
Dark blue blouse lining.....do....	4,203	66,832			85	12,474	83,544	18	600	76,413		295	77,326	6,218
Dark blue shirting and cape lining.....yards..	87,381	51,573		973	281	1,697	141,905	100	476	56,181		670	57,517	84,388
Jeans corset.....do....	33,129	46,750		351		1,058	81,279	4	250	31,811	450	480	32,995	48,284

Kersey:														
Sky blue $\frac{6}{4}$	11,230	145,184		1,331	1,645	5,805	165,195	143	2,331	142,982	1,827	969	148,252	16,943
Dark blue ....do....	705	5,091					5,796			1,604			1,604	4,192
Gray ....do....	976						976	11					11	965
Gold lace ....do....	5,137				3		5,140	10		2,981			2,991	2,149
Leather:														
Counter ....pounds..	1,431	15,050					16,481	114		14,981			15,005	1,476
Viscolized ....do....	101						101	15					15	86
Sole-cropped ....do....	31,254	14,713					45,967	510		30,730			31,240	14,727
Welt ....do....	1,091	6,450					7,541	68		5,170			5,238	2,303
Waxed upper ....square feet..	36,793	126,800					163,593			93,152			93,152	70,441
Pebble grain ....do....	785	10,500					11,285			9,123			9,123	2,162
Muslin, unbleached ....yards..	23,861	67,248		18,296		2,091	111,496	69	18,296	43,540			61,905	49,591
Padding ....do....	10,528	89,277		12,702		1,906	114,413	18	12,682	73,302		35	86,037	28,376
Silesia ....do....	21,129	27,576		5,829		9,032	63,566	42	5,830	42,138		26	48,036	15,530
Band instruments.														
Altos ....number..		26					26					21	21	5
Bassos, E♭ ....do....		11					11					11	11	
Baritones ....do....	1	9			1		11					10	10	1
Clarionets ....do....	3	43					46					38	38	8
Trombones ....do....	14	14			1		29	2				23	25	4
Cornets ....do....	3	32					35					29	29	6
Piccolos ....do....	2	9					11					9	9	2
Flutes ....do....	6	19					25					22	22	3
Bass drums ....do....	2	7					9					7	7	2
Cymbals ....pairs..	1	10					11					10	10	1
Triangles ....number..	1	4					5					4	4	1
Bass drum heads ....do....	4	56					60		6			44	50	10
cords ....do....	4	15					19			2		14	16	3
Reeds ....do....	719	444				2	1,165					1,028	1,028	137
Bags, assorted ....do....			74				74					74	74	
Pads ....do....	2,077	1,920					3,997					3,823	3,823	174
Springs ....do....	654	744					1,398					1,343	1,343	55
Lyres and rings ....do....	7						7					7	7	
Music stands ....do....	24	296					320					279	279	41

6.

QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., September 17, 1892.

GENERAL: I have the honor to submit the following report, pertaining to the national military cemeteries, for the fiscal year ending June 30, 1892.

At the commencement of the year there were eighty-two national cemeteries and no changes having occurred the number remains the same.

Number of interments to June 30, 1892:

Known	180,947
Unknown	149,745
Total	330,692

At the close of the last fiscal year there were seventy-one superintendents in service. During the year five others have been appointed and three died, leaving the number in service at the close of the year seventy-three. There are also two assistant superintendents on probation, whose terms of probationary service will expire at an early date.

Removals of remains of officers and soldiers have been made from abandoned posts to other post or national cemeteries, as follows: From Fort Mojave, Camp Wallen, Fort Lowell, Fort McDowell, Camp Date Creek, Camp Hualpai, Simmons Ranch, Old Fort Whipple, Fort Verde, Beals Springs, Willow Springs, Oaks and Willows, American Ranch, Camp Crittenden, and Camp Mason, Ariz., Forts Independence and Gaston, Cal.; and Fort McDermit, Nev., to the San Francisco (Cal.) National Cemetery. From Old Fort Defiance, Fort Thomas, the Cottonwoods, and Camp Goodwin, Ariz., and Forts Union, Selden, and Cummings, N. Mex., to the Fort Leavenworth (Kans.) National Cemetery. From Forts Crawford and Lewis, Colo.; Fort Hale, S. Dak; and Fort Fred Steele, Wyo., to the Fort McPherson (Nebr.) National Cemetery. From Fort Bennett, S. Dak.; Forts Pembina, Totten, A. Lincoln, and Rice, N. Dak., and Forts Maginniss, C. F. Smith, and Shaw, and Camp Poplar River, Montana, to the Custer Battlefield (Mont.) National Cemetery. From Camp Del Rio and Fort Davis, Tex., to the San Antonio (Tex.) National Cemetery. From Fort Elliott, Tex., to the Fort Scott (Kans.) National Cemetery. From the Chester Rural, Bristol, and Whitehall (Pa.) cemeteries, to the Philadelphia (Pa.) National Cemetery. From Fort Cameron, Utah, to Fort Douglass (Utah) Post Cemetery. From Fort Independence, Mass., to Fort Winthrop (Mass.) Post Cemetery; and from Chloride, N. Mex., to Fort Bayard (N. Mex.) Post Cemetery. Remains of other United States soldiers, discovered from time to time in inappropriate places, have also been removed to the nearest national cemetery.

Headstones.—During the year 5,832 headstones to mark the graves of Union soldiers, sailors, and marines buried in national, post, city, and village cemeteries were provided from the appropriations for that purpose and small white marble tablets have been erected, in lieu of separate headstones, in the Fort McPherson (Neb.) National Cemetery, and Fort Walla Walla (Wash.) Post Cemetery to mark the graves of unidentified soldiers buried in one grave in each of those cemeteries.

Rostrums.—Permanent rostrums have been erected in the Barrancas, Fla.; Camp Nelson, Ky.; Fort McPherson, Nebr,; Grafton, W. Va.; Mobile, Ala.; and Shiloh (Pittsburg Landing), Tenn., National Cemeteries. All were completed prior to Memorial Day, May 30, upon which

occasion appropriate services were held in nearly all the national cemeteries and the graves decorated with flags and flowers.

At the Andersonville (Ga.) National Cemetery a portion of the inclosing wall has been repointed and the headstones have been cleaned.

At the Antietam (Md.) National Cemetery necessary repairs have been made to the lodge and outbuildings, and an additional supply of water obtained by the construction of a new cistern.

At the Arlington (Va.) National Cemetery necessary repairs have been made to the lodge and outbuildings, the drainage repaired and improved, the avenues and burial sections kept in good order and the graveled driveway around the mansion replaced by a granolithic pavement. The extension of the cemetery has been graded, drained, and seeded, and a large number of trees have been planted.

At the Battle Ground (District of Columbia) National Cemetery, a monument has been erected by the survivors of the Ninety-eighth Regiment Pennsylvania Volunteers, in memory of members of that regiment killed and wounded in battle at Fort Stevens, District of Columbia, July 11 and 12, 1864.

At the Brownsville (Texas) National Cemetery the levee authorized by act (sundry civil) approved August 30, 1890, for the protection of the cemetery from the overflow of the Rio Grande, has been completed at a cost of $3,492, and the low grounds outside the cemetery inclosure cleared and seeded.

An additional water supply has been secured for the cemetery by pipe connection with the waterworks at Fort Brown.

At the Fayetteville (Ark.) National Cemetery repairs have been made to the lodge and outbuildings, the drainage improved, a new brick privy erected for public use, and the inclosing wall repointed where needed.

At the Fort Scott (Kans.) National Cemetery a new brick privy has been erected for public use, a contract made for the erection of a new flagstaff, and a part of the principal driveway paved with vitrified brick.

At the Gettysburg (Pa.) National Cemetery necessary repairs have been made to the lodge and outbuildings, the inclosing wall repointed where required, and a new flagstaff erected. A new entrance has been made from the Taneytown road on the west side of the cemetery, and provided with ornamental wrought-iron drive and walk gates. The work on the New York State monument is still in progress.

The purchase of additional land (8 acres) authorized by acts (sundry civil) approved August 30, 1890, and March 3, 1891, for the enlargement of the Hampton (Va.) National Cemetery, has been completed and contracts made for the erection of an inclosing wall of brick, with appropriate entrances to be provided with ornamental wrought-iron drive and walk gates. The grounds have been laid out and prepared for interments, which were commenced with grave No. 6595.

At the Jefferson Barracks (Mo.) National Cemetery, repairs have been made to the lodge and outbuildings and to the fence along the approach road, and a new flagstaff erected.

At the Keokuk (Iowa) National Cemetery a new flagstaff 100 feet in height has been erected.

At Little Rock (Ark.) National Cemetery, the lodge has been thoroughly repaired, the stable, wood, and cart shed reconstructed, and the drainage put in good condition.

At the Marietta (Ga.) National Cemetery, necessary repairs have been made to the lodge, outbuildings, and drainage, and a new flagstaff 89 feet in height erected.

At the Mound City (Ill.) National Cemetery, the drainage has been improved by the construction of a new valve gate and a silt basin at the mouth of the drain pipes.

At the St. Augustine (Fla.) National Cemetery, the inclosing wall of concrete, the construction of which was commenced during the previous year, has been completed at a total cost of $1,035.

At the San Francisco (Cal.) National Cemetery, necessary repairs have been made to the lodge and outbuildings, and the grounds properly cared for. A new reservoir of 40,000 gallons' capacity has been constructed in connection with the water supply of the cemetery, and there is every reason to believe that a permanent supply for all purposes has at last been obtained. During the year the remains of 473 officers, soldiers, and their families were received from abandoned posts in the departments of California and Arizona and reinterred in the cemetery.

At the Soldiers' Home (District of Columbia) National Cemetery, the lodge, outbuildings, and iron fence have been repainted and the grounds kept in good order.

At the Stone River (Tenn.) National Cemetery, the lodge has been thoroughly repaired and is now in good condition.

During the year the custody of the monument at Yorktown, Va., erected in pursuance of a resolution of Congress adopted October 29, 1781, and an act of Congress approved June 7, 1880, "to commemorate the victory by which the independence of the United States of America was achieved," was, by order of the Secretary of War, transferred to the Quartermaster-General of the Army, to be considered as part of the Yorktown (Va.) National Cemetery. A new picket fence has been erected around the lot (about one acre) in which the monument is located, and the monument and grounds placed in good condition.

At the other national cemeteries, not specified, necessary repairs have been made to the lodges, outbuildings, etc., and the grounds kept in order.

Soldiers' lots.—Provision has been made for the proper care of lots in which soldiers are buried in cemeteries at Montpelier, Vt., Barnesville, Kans., and Madison and Portage, Wis.

Burial of indigent soldiers.—Under the acts of Congress (sundry civil) approved March 2, 1889, August 30, 1890, March 3, 1891, and deficiency approved March 3, 1891, making appropriations for expenses of burying in the Arlington National Cemetery, or in the cemeteries of the District of Columbia, indigent ex-Union soldiers, sailors, and marines of the late civil war who die in the District of Columbia, accounts have been paid during the fiscal year for the burial of thirty-nine such persons, at a total cost of $1,606.43.

Roadways.—The macadamized road from the intersection of Wilkes and Alfred streets in the city of Alexandria, Va., via Wilkes street to the National Cemetery, for the construction of which an appropriation of $7,000 was made by act approved December 11, 1890, has been completed, at a total expenditure of $6,996.16; length of road, 2,200 feet.

The road to the Corinth (Miss.) National Cemetery, for the construction of which an appropriation of $10,000 was made by act approved April 2, 1888, was completed during the previous year, with exception of an additional layer of gravel 3 inches deep and 12 feet wide, which was placed on the middle of the road its whole length (4,864 feet) during the year; total cost of the road, $9,835.87.

The graveled road to the Culpeper (Va.) National Cemetery, for the construction of which and purchase of right of way an appropriation of

$4,500 was made by act (sundry civil) approved August 30, 1890, has also been completed, at a total expenditure of $4,499.76.

The public road leading from the railroad depots in the city of Fredericksburg, Va., to the National Cemetery near that city, for the macadamizing and permanently improving of which an appropriation of $8,000 was made by act (sundry civil) approved August 30, 1890, has been completed, at a total expenditure of $7,998.65.

The work of draining and repairing the road to the Hampton (Va.) National Cemetery, for which an appropriation of $2,000 was made by acts (sundry civil) approved March 2, 1889, and August 30, 1890, has not been commenced, action having been deferred pending the grant of right of way by the legislature of Virginia.

Under the act (sundry civil) approved March 3, 1891, appropriating $10,000 for the construction of a graveled road from the National Cemetery near Mound City, Ill., to Mounds Junction on the Illinois Central Railroad, proposals were invited for the work May 28, 1892, the bids to be opened July 5. Length of road, 14,469 feet. The contract has since been made and the work commenced.

The graveled road to the Port Hudson (La.) National Cemetery, for the construction of which an appropriation of $13,500 was made by act approved May 14, 1890, has been completed, at a total expenditure of $13,468.19.

The terminal points are the gate of the cemetery and a point on the bluff overlooking the Mississippi River about 150 feet from the terminus of the Clinton and Port Hudson Railroad. Length of road, 4,650 feet.

The road from the city of Staunton, Va., to the National Cemetery near that place, for the construction of which an appropriation of $11,000 was made by act approved April 9, 1890, has also been completed, at a total expenditure of $10,765.19.

Under the acts (sundry civil) approved March 2, 1889, August 30, 1890, and March 3, 1891, making appropriations for "repairs to roadways to national cemeteries which have been constructed by special authority of Congress," necessary repairs have been made to the roads leading to the Antietam (Md.), Culpepper (Va.), Florence (S. C.), Fredericksburg (Va.), Mound City (Ill.), New Berne (N. C.), Richmond (Va.), Springfield (Mo.), Staunton (Va.), and Vicksburg (Miss.), National Cemeteries. Amount expended during the year, $7,007.96.

Antietam Board.—Congress, in the sundry civil bill approved August 30, 1890, made an appropriation of $15,000, "for the purpose of surveying, locating and preserving the lines of battle of the Army of the Potomac and of the Army of Northern Virginia at Antietam, and for marking the same, and for locating and marking the positions of each of the forty-three different commands of the Regular Army engaged in the battle of Antietam, and for the purchase of sites for tablets for the marking of such positions."

The Secretary of War, under the authority of this law, appointed Col. J. C. Stearns, of Vermont, and Gen. Henry Heth, of Virginia, as agents of the Department, with a view to carry out the provisions of said act. These agents have reported to this office that the positions of the forty-three commands of the Regular Army participating in, or present during the battle, have been temporarily marked with wooden markers, to be replaced by stone tablets as soon as a title to the land can be obtained. They further report that the line of battle and positions occupied by the Army of Northern Virginia on the morning of September 17, 1862, has been very definitely settled, but it will be impossible

to locate many of the brigades of this Army by name. This is due to the absence of reports of officers commanding these organizations and the very indefinite descriptions as to the localities of the officers making reports.

They also state that from a careful study of the official records of the rebellion, and extensive correspondence with survivors of the several organizations which participated in the engagement, they have succeeded in accumulating a large amount of information which will enable them to complete a series of maps illustrating the great battle of Antietam; the best they hope to do will be to locate divisions and the general line of battle. Amount expended to June 30, 1892, $5,502.53.

A further appropriation of $16,310 was made by act (sundry civil) approved August 5, 1892, for the purchase, transportation, and setting of one hundred and fourteen tablets, and for other necessary purposes.

A statement showing the expenditures on account of the national cemeteries during the year is submitted herewith.

Very respectfully,

M. I. LUDINGTON,
Deputy Quartermaster-General, U. S. Army.

The QUARTERMASTER-GENERAL, U. S. ARMY.

A.—*Statement of disbursements of appropriation for national cemeteries during the fiscal year ending June 30, 1892.*

Name of cemetery.	Employés.	Tools, stores, and miscellaneous expenditures.	Improvement of grounds.	Inclosures.			Repair of lodges.	Outhouses (sheds, stables, etc.).	Trees, plants, etc.	Drainage.	Barrack and office furniture and stoves.
				Construction.	Repair.	Gates.					
Alexandria, La	$247.00	$14.03	$47.13				$23.50	$2.40	$19.85		
Alexandria, Va	433.00	22.24	95.53		$107.00		30.50	2.50	8.28		$3.00
Andersonville, Ga	595.94	180.31	339.33		207.39		78.26	10.65	49.90		
Annapolis, Md	72.75	34.78			3.25			12.00	4.00		
Antietam, Md	425.00	28.60	47.10		55.00						2.65
Arlington, Va	8,643.74	445.25	14,306.33				43.33	163.00	821.50	$679.14	26.75
Balls Bluff, Va	25.00										
Barrancas, Fla	304.00		50.00				8.70	500.95			
Baton Rouge, La	360.00	20.85	4.00				64.75	12.00	15.60		
Battle Ground, D. C		16.35	37.50		21.60		45.25	56.00	5.48		10.95
Beaufort, S. C	591.00	19.90	485.70				6.40	9.45			
Beverly, N. J		3.85	6.66				6.20				
Brownsville, Tex	420.00	46.50	60.00								
Camp Butler, Ill	260.58	41.31	64.20		29.28		36.54	4.40	12.00	31.70	18.50
Camp Nelson, Ky	195.00	33.85					14.02	391.30 9.35			
Cave Hill, Ky	204.00										
Chalmette, La	1,060.00	32.68	75.00	$950.00	25.00				15.00		
Chattanooga, Tenn	2,412.25	83.75	159.00			$45.00		22.25			
City Point, Va	262.50	29.36	87.09				25.75	43.55			
Cold Harbor, Va		20.12	55.47		21.87		45.00	4.50			4.50
Corinth, Miss	785.50	95.65	50.00						16.00		4.50
Crown Hill, Ind									10.00		
Culpeper, Va	186.00	14.74	15.22	15.27			9.00				3.00
Custer Battlefield, Mont											
Cypress Hills, N. Y	884.00	42.10	58.40				31.10	4.00	58.80		39.30
Danville, Ky	25.00										
Danville, Va	120.00	20.40	56.20				10.00	3.80	18.00		
Fayetteville, Ark	212.50	89.73	80.90		13.35		6.18	161.16		164.00	1.66
Finns Point, N. J		63.74	12.51				18.38				
Florence, S. C	150.00	9.32	5.25				16.45	22.50			
Fort Donelson, Tenn	135.00	60.90	19.75								
Fort Gibson, Ind. T	200.00	72.58	21.00		50.63		7.93	.50		3.50	2.50
Fort Harrison, Va	26.00	19.00	63.61					41.00		12.50	7.00
Fort Leavenworth, Kans	498.75	12.50	23.00		2.75	4.00	6.75	.10			
Fort McPherson, Nebr	290.00	73.07	158.70		17.85		37.10	538.50	10.00		2.00
Fort Scott, Kans	240.00	62.10	48.00				10.00	164.00			5.00
Fort Smith, Ark	300.00	104.85	75.00		6.00				21.00		7.50
Fredericksburg, Va	574.00	20.04					3.00		4.00		2.00
Gettysburg, Pa	475.00	13.03	268.40		502.87	625.00	10.00	11.00	3.00		
Glendale, Va		32.48	99.52				75.00	5.00			

A.—*Statement of disbursements of appropriation for national cemeteries during the fiscal year ending June 30, 1893*—Continued.

Name of cemetery.	Employés.	Tools, stores, and miscellaneous expenditures.	Improvement of grounds.	Inclosures.			Repair of lodges.	Outhouses (sheds, stables, etc.).	Trees, plants, etc.	Drainage.	Barrack and office furniture and stoves.
				Construction.	Repair.	Gates.					
Grafton, W. Va	$180.00	$27.13	$42.00				$17.50	$503.85	$9.75		$5.45
Hampton, Va	496.00	46.22	971.57				20.00				3.00
Jefferson Barracks, Mo	1,337.00	34.08	16.75		$33.49			3.50	6.86		
Jefferson City, Mo	100.01	11.65	5.00				10.50	14.25			
Keokuk, Iowa	70.50	23.05	12.00		8.00		13.20			$12.00	2.50
Knoxville, Tenn	127.00	73.87	27.00								
Lebanon, Ky	81.00	1.00					1.35		4.00		
Lexington, Ky	15.00										
Little Rock, Ark	529.50	19.75	15.00		9.30		364.00	349.00		73.88	
Loudon Park, Md	189.50	5.30			18.00						
Marietta, Ga	1,118.15	98.02	85.75		20.00		19.85		13.00	18.40	3.50
Memphis, Tenn	1,323.00	2.50			6.50						
Mexico City, Mexico	287.97	67.40	12.50						9.75		58.25
Mill Springs, Ky	87.00				64.63		82.68		20.00		
Mobile, Ala	55.50	9.50	6.00					547.00			
Mound City, Ill	449.00	27.12	105.35					62.15		173.30	
Nashville, Tenn	1,302.57	37.72	99.92				59.26	10.00			3.64
Natchez, Miss	563.00	69.60					5.00				
New Albany, Ind	247.50	6.00							7.00		
Newbern, N. C	180.00	71.83	172.95		10.00		41.50				
Philadelphia, Pa	810.75	18.10	85.00						10.50		
Poplar Grove, Va	274.50	18.47	53.75				2.00				
Port Hudson, La	283.50	.75	12.00				91.13				
Quincy, Ill	25.00										
Raleigh, N. C	218.75	8.90	41.62		3.60			38.11	16.00		
Richmond, Va	400.00	20.18	40.00		20.75		48.62		18.20	4.00	7.00
Rock Island, Ill			59.40					59.50			
Salisbury, N. C	206.24	96.26	65.50		17.82		10.50	6.04			
San Antonio, Tex	92.50		45.00		16.00				19.25		
San Francisco, Cal	502.63	64.00					12.50				
Seven Pines, Va	8.00	15.29	154.31				16.00	6.00			6.43
Shiloh, Tenn	360.00	52.60	87.50		494.80			507.03		22.00	
Soldiers' Home, D. C	899.74	27.75	222.75		100.00		84.83	60.00	63.70		
Springfield, Mo	248.12	49.30	14.75		.30		1.25	.40			.50
St. Augustine, Fla	75.00			$1,035.00							
Staunton, Va	69.33	49.19	10.00						12.00		6.00
Stone River, Tenn	566.50	157.73	8.00				229.55		9.60		
Vicksburg, Miss	3,040.00	252.85						4.50			
Wilmington, N. C	129.25	48.15	45.50				30.00	29.90			
Winchester, Va	223.00	14.30					11.00	31.00			
Woodlawn, N. Y	100.00				87.40						

Yorktown, Va	99.00	75.44	72.00		264.48			2.50			10.50
Soldiers' Lots	227.20										
Miscellaneous		53.33									
Total	39,616.72	3,534.29	19,564.37	2,000.27	2,238.91	674.00	1,841.31	4,430.59	1,307.02	1,194.42	247.58

Name of cemetery.	Flagstaffs and monuments.	Water supply.	Interments.	Fuel.	Forage.	Shoeing animals.	Transportation, tolls, etc.	Repairs to harness.	Flags and halliards.	Lawn mowers.	Iron superstructures for rostrums.	Total.
Alexandria, La	$3.15	$87.25		$33.95	$101.28		$8.00	$6.00				$593.54
Alexandria, Va		70.15		40.95								813.15
Andersonville, Ga					212.98	$11.20	9.09	3.70				1,698.75
Annapolis, Md	5.00	35.00		57.12			16.00					239.90
Antietam, Md		200.00		75.76			42.25					876.36
Arlington, Va		114.94		385.67	219.39		41.00					25,890.04
Balls Bluff, Va												25.00
Barrancas, Fla		10.00	$10.00									883.65
Baton Rouge, La	9.70	3.50		41.68	102.79	3.90		3.75				642.52
Battle Ground, D. C	7.50	8.77		77.15								286.55
Beaufort, S. C				63.00	240.02	2.50						1,417.97
Beverly, N. J		37.50		53.75								107.96
Brownsville, Tex		41.00		70.00		13.50						651.00
Camp Butler, Ill	9.00	28.75		38.24								574.50
Camp Nelson, Ky				68.82	51.26	4.00	5.35					772.95
Cave Hill, Ky		12.72		54.40								271.12
Chalmette, La	6.75			75.25	129.92	8.44	9.75					2,387.79
Chattanooga, Tenn	8.89	21.50	14.00	38.07	281.97	30.00	11.25					3,127.93
City Point, Va		5.00		94.20	121.00	1.25						669.70
Cold Harbor, Va	1.50	17.60	1.50	30.00			4.90					206.96
Corinth, Miss			65.35	48.83	240.44	31.00		2.50				1,339.77
Crown Hill, Ind												10.00
Culpeper, Va			8.00	44.46			30.50					326.19
Custer Battlefield, Mont												
Cypress Hills, N. Y		70.50	.30	66.04		19.00	7.68	7.75				1,288.97
Danville, Ky	50.00											75.00
Danville, Va	25.00	40.00		75.20								368.60
Fayetteville, Ark	6.00	8.61		31.84								775.93
Finns Point, N. J	8.00			81.62								184.25
Florence, S. C	4.00	12.00	35.75	35.77								291.04
Fort Donelson, Tenn		1.45		56.00								273.10
Fort Gibson, Ind. T	1.25	12.25		33.26								406.40
Fort Harrison, Va	.50			72.00			15.00					256.61
Fort Leavenworth, Kans	3.10			95.20	101.16							747.31
Fort McPherson, Nebr		14.25		187.32								1,238.79
Fort Scott, Kans		22.25		45.20								596.55
Fort Smith, Ark		16.39		39.80								570.54
Fredericksburg, Va	4.00	1.00		63.92	89.56	3.75						765.27
Gettysburg, Pa	431.25	3.25		62.56			62.50					2,467.86

A.—*Statement of disbursements of appropriation for national cemeteries during the fiscal year ending June 30, 1892*—Continued.

Name of cemetery.	Flagstaffs and monuments.	Water supply.	Interments.	Fuel.	Forage.	Shoeing animals.	Transportation, tolls, etc.	Repairs to harness.	Flags and halliards.	Lawn mowers.	Iron superstructures for rostrums.	Total.
Glendale, Va	$10.00	$4.00		$55.04								$281.04
Grafton, W. Va				25.33								811.01
Hampton, Va	8.00	25.00		63.96			$39.00					1,672.75
Jefferson Barracks, Mo		4.00		75.86	$112.54							1,624.08
Jefferson City, Mo	222.98	10.00		46.39								420.68
Keokuk, Iowa	316.10			68.00								525.35
Knoxville, Tenn				17.05	19.19							264.11
Lebanon, Ky				51.08								138.43
Lexington, Ky	30.00											45.00
Little Rock, Ark				62.30	129.12	$89.10	1.75					1,562.70
Loudon Park, Md		2.00	$15.00	59.84								289.64
Marietta, Ga	225.00	53.50		55.70	247.59	20.50	13.35	$4.75				1,997.06
Memphis, Tenn				19.48	183.42	11.00	13.50					1,559.40
Mexico City, Mexico		46.29		140.00								622.16
Mill Springs, Ky				39.04								293.35
Mobile, Ala			11.39	42.00								671.39
Mound City, Ill				37.00	85.38	8.10						947.40
Nashville Tenn		90.39		51.15	192.55	16.25	18.50					2,381.95
Natchez, Miss	3.10	.75		65.73	106.54	6.00						819.72
New Albany, Ind	7.50	42.00		38.90								348.90
Newbern, N. C	2.25			70.00	128.64	3.90						681.07
Philadelphia, Pa			739.85	103.40	136.78	7.50	26.00	3.30				1,941.18
Poplar Grove, Va	5.00			48.00	134.36	4.50						540.58
Port Hudson, La	40.25			42.00	136.37							606.00
Quincy, Ill												25.00
Raleigh, N. C		8.00	9.30	53.55								397.83
Richmond, Va	1.50	5.00		65.28	111.96	7.50						744.99
Rock Island, Ill												118.90
Salisbury, N. C			14.20	37.80	72.40	2.30						529.06
San Antonio, Tex		3.60	10.00									186.35
San Francisco, Cal				185.54								714.67
Seven Pines, Va	5.00			68.00								274.03
Shiloh, Tenn	13.75	3.00	19.25	17.48	128.99	19.00						1,725.40
Soldiers' Home, D. C		23.21		39.01								1,520.99
Springfield, Mo	22.50			51.20								388.32
St. Augustine, Fla												1,110.00
Staunton, Va		1.50		59.50								207.52
Stone River, Tenn		30.81	15.00	50.68	110.28	4.40	12.00					1,194.55
Vicksburg, Miss		83.38		99.00	205.17	18.75						3,703.60
Wilmington, N. C				65.80								348.60
Winchester, Va		2.50		64.94			15.00					361.74

Woodlawn, N. Y.												187.40
Yorktown, Va.	13.75	10.00		42.00								589.67
Soldiers' Lots												227.20
Miscellaneous									975.78	1,201.47	$2,550.00	4,780.58
Total	1,511.17	1,345.51	908.89	4,464.06	4,133.05	267.34	402.37	31.75	975.78	1,201.47	2,550.00	94,500.87

The balance of the appropriation ($100,000) is in the hands of officers of the Quartermaster's Department, and is required for the payment of outstanding indebtedness.

7.

REPORT OF MAJOR JAMES GILLISS, QUARTERMASTER, U. S. ARMY.

WAR DEPARTMENT,
QUARTERMASTER GENERAL'S OFFICE,
Washington, September 2, 1892.

GENERAL: I have the honor to report that during the fiscal year ending June 30, 1892, I have been on duty in this office in charge of matters pertaining to transportation, regular supplies, contracts and purchases, and the adjustment of claims against the Quartermaster's Department which accrued during the war of the rebellion, and respectfully submit the following reports of the branches of the office in which work pertaining to these matters has been performed:

TRANSPORTATION BRANCH.

Through this branch the Quartermaster-General exercises supervision over all matters pertaining to the transportation of troops and supplies for the Army, and settles all accounts therefor which, for any reasons, legal or technical, can not be paid by the disbursing quartermasters stationed throughout the country, including the accounts of bond-aided Pacific roads. Estimates for transportation funds, and reports of their expenditures, and replies to all inquiries of Congress, the Court of Claims, and the accounting officers of the Treasury relative to transportation are prepared, and all claims growing out of alleged services on vessels and railroads operated by the Government during the rebellion, and all unadjusted matters pertaining to Southern railroads indebted to the United States for railway material purchased by them at the close of the war, are adjusted through this branch. Telegraphing on military business and accounts growing out of such service are supervised through the transportation branch. Transportation for the other executive departments is also provided upon requests of their authorized officers and agents.

The following table shows that during the year the Quartermaster's Department has provided transportation for 442,488 persons, 3,383 animals, and 92,244 tons of material:

	Railroad.	Water.	Wagon.	Stage.	Government vessels.	Total.
Passengers:						
Officers	1,251	181	.....	22	30,920	32,374
Men	21,443	4,189	.....	1,842	382,640	410,114
Total	22,694	4,370	.....	1,864	413,560	442,488
Animals:						
Horses	2,038	113	1	.....	70	2,222
Mules	1,115	36	.....	.....	10	1,161
Total	3,153	149	1	.....	80	3,383
Stores:						
Subsistence	25,304,418	2,649,221	14,523,146	84,929	2,449,636	45,011,350
Quartermaster	32,241,176	1,657,129	34,686,289	47,044	1,737,062	70,368,700
Ordnance	13,335,773	3,285,263	4,410,466	14,631	2,028,813	23,074,946
Medical	1,012,263	75,652	1,531,431	5,440	44,828	2,669,614
Signal Service	429,411	49,354	257,158	503	.....	736,426
Miscellaneous	16,257,119	1,039,866	20,287,097	42,662	5,001,124	42,627,868
Total	88,580,160	8,756,485	75,695,587	195,209	11,261,463	184,488,904

The cost of this transportation, as shown by the aggregate of accounts paid by disbursing quartermasters (see report of accounts branch under this head) and the sum of the accounts, including those of the bond-aided Pacific railroads, settled through the transportation branch, and cost of maintaining and chartering vessels, was $2,352,249.98.

MOVEMENTS OF TROOPS.

The movements of troops during the year, with cost of same, exclusive of deductions on account of land-grant and bond-aided railroads, have been as follows:

Troops.	Movement.	Cost.
1st Artillery	Light Battery E, from Fort Riley to Fort Sheridan	$1,313.53
	Band and seven batteries, escort duty in Department of the East	300.08
2d Artillery	Light Battery F, from Fort Leavenworth to Fort Riley	26.71
	Four batteries, changing station in Department of the East	415.75
4th Artillery	Three batteries, changing station in Department of the East	1,178.58
5th Artillery	Two batteries from Department of California to Department of the Columbia.	1,017.18
	Two batteries from Department of the Columbia to Department of California.	688.82
1st Cavalry	Two troops changing station in Department of Dakota	582.43
	Headquarters and eight troops from Department of Dakota to Department of Arizona.	26,423.97
	One troop from Department of the Missouri to Department of Arizona	1,538.06
	One troop changing station in Department of Arizona	84.20
2d Cavalry	Two troops changing station in Department of Arizona	712.29
3d Cavalry	One troop changing station in Department of Dakota	1,775.17
	Four troops changing station in Department of Texas	2,079.93
4th Cavalry	Three troops changing station in Department of California	6,895.00
	One troop from Department of the Columbia to Department of California.	42.75
6th Cavalry	Six troops to field service in Department of the Platte	5,604.54
	One troop from Fort Sill, Okla., to Fort Myer, Virginia	2,294.41
8th Cavalry	Four troops changing station in Department of Dakota	3,604.16
9th Cavalry	Headquarters and six troops to field services in Department of the Platte	6,485.06
10th Cavalry	Three troops changing station in Department of Arizona	1,679.95
	Headquarters and nine troops, from Department of Arizona to Department of Dakota.	26,241.13
	One troop from Department of Arizona to Department of the Missouri	1,565.25
2d Infantry	One company changing station in Department of the Platte	756.22
3d Infantry	Two companies to field service, in Department of Dakota	754.23
	One company to escort duty, in Department of Dakota	151.38
5th Infantry	One company changing station in Department of Texas	1,212.16
	One company from Department of Texas to Department of the Missouri	1,614.48
6th Infantry	Five companies changing station in Department of the East	2,722.09
7th Infantry	Two companies changing station in Department of the Platte	57.95
9th Infantry	Headquarters and eight companies from Department of Arizona to Department of the East.	24,686.29
	Two companies changing station in Department of Arizona	2,324.06
10th Infantry	Headquarters and five companies changing station in Department of Arizona.	5,520.76
	One company from Department of the Platte to Department of Arizona	2,340.70
11th Infantry	Three companies changing station in Department of Arizona	986.75
	Headquarters and eight companies from Department of the East to Department of Arizona.	32,911.29
	Headquarters and band changing station in Department of Arizona	1,388.35
12th Infantry	One company changing station in Department of Dakota	288.31
15th Infantry	One company changing station in Department of the Missouri	384.97
16th Infantry	One company changing station in Department of the Platte	491.86
17th Infantry	One company to field service, in Department of the Platte	2,622.40
18th Infantry	Two companies changing station in Department of Texas	1,513.11
20th Infantry	One company changing station in Department of Dakota	795.61
21st Infantry	Four companies changing station in Department of the Platte	1,059.52
	Five companies from Department of the Platte to Department of the East.	5,643.17
22d Infantry	Three companies changing station in Department of Dakota	2,504.31
23d Infantry	Two companies changing station in Department of Texas	569.65
24th Infantry	Five companies changing station in Department of Arizona	1,492.09
25th Infantry	Three companies changing station in Department of Dakota	4,672.64
	Total amount expended in the principal movements of troops during the year.	192,013.90

SUMMER ENCAMPMENTS AND RIFLE COMPETITION.

From reports received it is shown that there was expended during the fiscal year 1892, in the transportation of troops in connection with summer encampments, practice marches, field maneuvers, and instructions, the sum of $12,006,62.

Also of the transportation of enlisted men to engage in target practice and rifle competition the sum of $27,696.23.

Where expended.	Summer camps.	Rifle competition.
Department of the East	$346.50	$7,521.92
Department of the Missouri	667.43	4,228.59
Department of the Platte	354.71	5,934.05
Department of Dakota	5,370.38	3,626.12
Department of Texas	2,883.97	1,243.35
Department of Arizona	2,379.63	3,763.80
Department of California	.....	.....
Department of Columbia	4.00	1,378.40
Total	12,006.62	27,696.23

BOND-AIDED PACIFIC RAILROADS, THEIR BRANCHES AND LEASED LINES.

Eight thousand seven hundred and five persons, 1,117 animals, and 42,249,253 pounds of freight were transported for the Department over the bond-aided Pacific railroads, their branches, and leased lines during the year.

The service performed by each road is shown in the following table:

Company.	Persons transported.	Animals transported.	Freight transported.
Union Pacific	4,378	516	20,071,767
Central Branch, Union Pacific, operated by the Missouri Pacific system	.....	.....	3,954
Central Pacific (branches and leased lines) operated by the Southern Pacific Co	3,454	434	18,473,617
Sioux City and Pacific	873	167	3,699,935
Total	8,705	1,117	42,249,253

Eleven hundred and fifty-three accounts of these railroads, aggregating $275,492.58, were received at this office during the year for settlement through the Treasury, as required by law. Of this amount $185,778.53 inured to the Union Pacific, $86,275.41 to the Central Pacific (branches and leased lines operated by the Southern Pacific Company), and $3,438.64 to the Sioux City and Pacific.

Of these accounts 352, aggregating 42,495.64, were for transportation performed for other departments of the Government under law of July 5, 1884, and of this amount $28,895.50 was for service over Union Pacific; $13,580.20 over Central Pacific with leased lines and branches (operated by Southern Pacific Company), and $19.94 for service by Sioux City and Pacific Railroad.

The following is a statement of the analysis of the accounts of these companies for the year, showing amounts for troops and stores and for bonded and nonbonded service respectively:

Company.	Amount of accounts received in Quartermaster-General's office.	Estimated amount of accounts not rendered.	Portion inuring for troops.	Portion inuring for stores.	Proportion subsidized	Proportion unsubsidized.	Total amount.
Union Pacific	$185,778.53	$99,271.91	$78,412.86	$206,637.58	$222,845.47	$62,204.97	$285,050.44
Southern Pacific Company, operating Central Pacific Railroad	86,275.41	160,200.84	44,416.93	202,059.32	87,326.51	159,149.74	246,476.25
Sioux City and Pacific	3,438.64	289.26	1,991.55	1,736.35	3,477.38	250.52	3,727.90
Total	275,492 58	259,762.01	124,821.34	410,438.25	313,649.36	221,605.23	535,254.59

VESSELS IN THE SERVICE OF THE QUARTERMASTER'S DEPARTMENT.

This department has kept in its service, for use at points where constant service is required, nine steamboats and one sloop, owned by the department, the cost of maintaining which, including repairs, for the year, was $96,013.06, as will appear from the following statement:

Name.	Class.	Tonnage.	When purchased or built.	Estimated cost or value.
General McDowell*	Propeller	160.00	Nov. 17, 1886	$56,150.00
Chester A. Arthur†	Steamer	178.70	June 30, 1876	26,000.00
General Meigs‡	Propeller	175.00	May 11, 1892	64,436.43
General Wool§	do	97.00	Sept. 1, 1883	27,870.80
Monroe‖	Steam launch	62.36	Nov. 30, 1875	15,200.00
Resolute**	Steam tug	70.30	Nov. 14, 1879	17,947.46
Hamilton	Steam launch	37.68	Feb. 1, 1875	7,800.00
Atlantic††	Steam tug	60.31	Oct. 15, 1878	13,805.56
Thayer	Steam launch	32.36	Oct. 4, 1874	7,200.00
Belle of the Bay‡‡	Sloop	16.00	July 25, 1882	275.00

Name.	By whom employed.	Where employed.	Amount paid for repairs.	Amount paid for running expenses, including crews' wages.	Total expenses.
General McDowell*	Chief quartermaster, Division of the Pacific.	San Francisco Harbor	$6,080.75	$21,605.82	$27,686.57
Chester A. Arthur†	Depot quartermaster.	New York Harbor	1,061.79	10,862.12	11,923.91
General Meigs‡	do	do	.....	1,392.92	1,392.92
General Wool§	do	do	5,821.10	7,684.18	13,505.28
Monroe‖	Post quartermaster.	Fort Adams, R. I	1,651.90	4,471.52	6,123.42
Resolute**	Depot quartermaster.	Boston, Mass	2,320.75	8,936.56	11,257.31
Hamilton	Post quartermaster.	Davids Island and Governors Island, N. Y. H.	1,697.59	4,219.20	5,916.79
Atlantic††	do	Governors Island, N. Y. H.	4,135.00	11,928.54	16,063.54
Thayer	do	Davids Island, N. Y. H., Forts Wadsworth and Hamilton, N. Y. H.	40.52	2,003.80	2,044.32
Belle of the Bay‡‡	do	St. Francis Barracks, Fla.	99.00	.....	99.00
Total			22,908.40	73,104.66	96,013.06

*Paid for crew, $12,159.96; dockage, $1,440; water, $360; fuel, $7,220.79; stores, etc., $425.07. Paid for hire of substitute, $1,820.

†Crew paid to May 31, 1892, and steamer laid up. Cost of manning and victualing, $7,999.96; fuel, $2,717.30; stores, etc., $144.86. Paid for hire of substitute while repairing, $935. not included in total.

‡Cost of manning and victualling for June, 1892, $720.83; assistant engineer, $70; fuel, $355.30; stores, etc., $245.96.

§In service of Ordnance Department, cost of manning and victualing, $5,055.96; fuel, $2,187.52; stores, etc., $440.70. Paid for hire of substitute while repairing, $2,887, not included in total.

‖$248 paid for hire of substitute while repairing.

**$651 paid for hire of substitute while repairing.

††$450 paid for hire of substitute while repairing.

‡‡No running expenses reported.

The new steamer built by this Department during the year, under contract, as explained in last annual report of the Quartermaster-General, was completed and put in service May 11,1892, having been named the *General Meigs*, as a tribute to the memory of the late Quartermaster-General. The contract price of her construction, $57,000, was increased by furnishings and equipment for actual service to $64,436.43. She will be run at about the same expense as the boat which she replaces, but one additional employé (an assistant engineer or oiler) having been authorized, whose services were rendered indispensible by the fact that the new boat is a twin-screw propeller having two engines. Upon actual tests in service the new boat has been found to be well suited for the duties for which she was built.

STATEMENT OF CHARTERED VESSELS.

The following is a list of vessels temporarily used at times during the year by charter and hire, showing cost of such service to have been $9,407.14:

Name.	Class.	Tonnage.	When chartered.	Period of service.		Where charter money is payable.
				From—	To—	
Florence	Steam launch.	28.01	July 1, 1891	July 1, 1891	June 30, 1892	Fort Barrancos, Fla.
Ontario	Steamboat	Unknown	June 6, 1891	July 3, 1891	Aug. 1, 1892	Post Quartermaster, Madison barracks.
Kate Cannon	Steam tug	do	do	July 1, 1891	Sept. 30, 1892	Post quartermaster.
E. B. Lane	do	do	June 6, 1892	June 6, 1892	June 30, 1892	Do.
Lime Rock	Propeller	149.83	Aug. 24, 1891	Aug. 24, 1891	Sept. 11, 1891	New York City.
Wm. E. Chapman.	do	213.80	Sept. 19, 1891	Sept. 19, 1891	Sept. 19, 1891	Do.
Leonard Richards.	do	97.70	Oct. 24, 1891	Oct. 24, 1891	Dec. 26, 1891	Do.
F. W. Vosburgh.	do	94.32	Feb. 23, 1892	Feb. 23, 1892	Feb. 23, 1892	Do.
Thomas Bagley.	Steam tug	Unknown	Jan. 19, 1892	Jan. 19, 1892	Jan. 19, 1892	Chicago, Ill.
Active	do	173.81	Aug. 18, 1891	Aug. 20, 1891	Aug. 20, 1891	San Francisco, Cal.
Sonoma	Steamboat	305.00	Oct. 31, 1891	Dec. 1, 1891	Jan. 9, 1892	Do.

Name.	By whom employed.	Rate of pay.	Total earnings.	Remarks.
Florence	Post quartermaster.	$200 per month	$2,400.00	Freight and passengers between Forts Pickins and Barrancas.
Ontario	Post quartermaster, Madison barracks.	$2.50 per head	717.50	Transporting companies A, B, D, and G, 11th Infantry, Madison Barracks to Fort Ontario, N. Y.
Kate Cannon	Post quartermaster.	$4 per hour	559.64	Employed at intervals setting targets.
E. B. Lane	do	$3.50 per hour	84.00	Do.
Lime Rock	Depot quartermaster.	$55 per day	935.00	Substitute in place of C. A. Arthur, under repair.
Wm. E. Chapman.	do	$75 per day	75.00	Substitute in place of Gen. Wool, under repair.
Leonard Richards.	do	$43 per day	2,752.00	Do.
F. W. Vosburgh.	do	$60 per day	60.00	Do.
Thomas Bagley	Maj. G. C. Smith	$4 for job	4.00	Towing across river Chicago, a life-boat.
Active	Chief quartermaster. Department California.	$70 per day	70.00	Employed as substitute for Gen. McDowell.
Sonoma	do	$50 per day	1,750.00	Do.
Total			9,407.14	

TELEGRAPHING ON ARMY BUSINESS.

Telegraphing on official military business has continued during the fiscal year 1892, without cash outlay, as the Western Union Telegraph Company has refused to accept payment of the rates fixed by the Postmaster-General for Government telegrams, and has rendered no accounts for such service performed during fiscal year 1892.

This office was, however, advised about March, 1892, that an arrangement had been entered into between the accounting officers of the Treasury and the Western Union Telegraph Company, whereby the company might receipt for all moneys due it and remaining unpaid for Government telegrams since July 1, 1889, under protest, reserving the right to seek further remuneration through the courts or otherwise as deemed best.

A copy of the form of protest, as accepted by the accounting officers of the Treasury, was furnished this office by the Third Auditor of the Treasury, in March, 1892, and is as follows:

The Western Union Telegraph Company protests against the receipt of the amount set forth in the annexed voucher as in full compensation for the services supposed to be embraced in the certificate of [name of officer certifying to correctness of bill], hereto attached, and reserves the right to contest upon all legal grounds the rates at which the amount is stated, as below the actual cost of, and totally inadequate compensation for, the services rendered; and reserves the right to collect, by suit or otherwise, such further and additional compensation as it may justly be entitled to receive.

THE WESTERN UNION TELEGRAPH COMPANY.
By NORVIN GREEN,
President.

Accounts for the telegraphic service performed for the Army, and payable by the Quartermaster's Department, during fiscal year 1890, have been submitted by the Western Union Telegraph Company, and directions for their proper settlement by the disbursing officers of the Quartermaster's Department have been given, at rates fixed by the Postmaster-General; a copy of the protest of the company before recited to be filed with each voucher upon which payment is made.

The company has not, to date, July 1, 1892, presented its accounts for the fiscal years 1891 and 1892.

The rates fixed by the Postmaster-General for the fiscal years 1890, 1891, and 1892 still remain in force.

ACCOUNTS AND CLAIMS FOR TRANSPORTATION.

The records show that 3,099 accounts and claims, amounting to $481,939.03, were received and examined for settlement in this branch during the year.

Of these 645, amounting to $156,092.17, were chargeable to the appropriation for Army transportation for the several years in which the services were performed; 1,153, amounting to $275,492.58, were for transportation over the bond-aided Pacific railroads, their leased lines and branches; 1,573, amounting to $85,653.15, including accounts of the bond-aided Pacific roads, were for transportation for other Departments, and payable by the several Departments interested, and 80, amounting to $7,196.77, were for the transmission of telegrams on official military business.

REGULAR SUPPLIES BRANCH.

This branch has charge of all matters relating to the procurement and distribution of supplies, including means of transportation, stoves, and heating apparatus, and repair and maintenance of same, for heating barracks and quarters; of ranges, stoves, and apparatus for cooking; of fuel and lights for enlisted men, guards, hospitals, store-houses, and offices, and for sales to officers; of equipment of bakehouses to carry on post bakeries; of the necessary furniture, text-books, paper, and equipments for the post schools; for the tableware and mess furniture for kitchens and mess halls for enlisted men; of forage and bedding for the public animals of the Quartermaster's Department, and for the authorized number of officers' horses; of straw for soldiers' bedding; of stationery and blank books for the quartermaster's department, certificates for discharged soldiers, blank forms for the paymaster's and Quartermaster's Departments, and of the necessary correspondence connected with the work of this branch.

This branch has also charge of matters relating to all contracts to which the Quartermaster's Department is a party.

The following statement shows the number of cavalry and artillery horses purchased during the fiscal year, their aggregate cost, average cost, and place of purchase:

Cavalry and artillery horses purchased (by department or post).

For what department, depot, or post.	Cavalry.	Artillery.	Total cost.	Average cost.	Where purchased.
Department of the East	87	24	$15,580.85	$140.37	St. Louis and Boston.
Department of the Missouri	174	34	30,288.60	145.61	St. Louis, Chicago, and Fort Riley.
Department of Dakota	178	.....	18,396.45	103.35	In department.
Department of Texas	105	4	12,755.20	117.02	Do.
Department of the Columbia	41	.....	5,489.90	133.90	Do.
Department of California	31	13	6,720.50	152.74	Do.
Department of the Platte	89	.....	10,955.73	123.10	Do.
Jefferson Barracks, Mo	20	.....	2,976.00	148.80	St. Louis, Mo.
Total	725	75	103,163.23	128.95	

Average cost of cavalry horses $125.75
Average cost of artillery horses 159.90

The following statement shows the number of draft and pack animals purchased during the fiscal year, their distribution, aggregate cost, and average cost:

Mules and team horses purchased.

For what department, depot, or post.	Horses.			Mules.		
	No.	Total cost.	Average cost.	No.	Total cost.	Average cost.
Department of the East	8	$1,391.00	$173.87	26	$4,111.80	$158.14
Department of the Missouri	1	150.00	.....	18	3,131.50	173.9[illegible]
Department of Arizona	2	350.00	175.00	21	3,343.40	159.21
Department of the Platte	3	530.00	176.66	.....	.....	.....
Department of California	4	874.00	218.50	.....	.....	.....
Washington Depot	7	1,685.00	240.71	.....	.....	.....
Jeffersonville Depot	1	200.00	.....	.....	.....	.....
Willets Point, New York Harbor	1	180.00	.....	.....	.....	.....
Jefferson Barracks, Mo	.....	.....	.....	6	1,019.80	16[illegible].91
Total	27	5,360.00	198.52	71	11,606.50	16[illegible].47

The following is a statement of the sales of public animals in the different departments and at general and other depots during the fiscal year, as reported to this office, showing the number of each class and the total amount realized:

Where sold.	Cavalry and artillery horses.		Draft horses.		Mules.	
	No.	Amount.	No.	Amount.	No.	Amount.
Department of the East	21	$874.95	5	$167.53	13	$559.70
Department of the Missouri	167	5,713.78	10	407.22	53	1,540.10
Department of Dakota	206	5,886.40	1	19.00	206	8,336.86
Department of Texas	128	3,556.93			25	1,122.40
Department of the Columbia	13	361.00	10	416.00	12	505.50
Department of Arizona	99	3,644.50			34	1,086.09
Department of California	70	1,363.00	4	266.00	30	1,057.50
Departmnet of the Platte	133	4,073.45			225	8,137.25
San Francisco Depot	4	115.00				
New York Depot	4	111.00	1	212.50		
Washington depot	7	540.00	5	353.50		
Jefferson Barracks, Mo					5	88.00
Total	852	26,240.01	36	1,841.75	603	22,433.40

The following is a summary of the number of animals purchased, sold, died, etc., during the fiscal year and remaining on hand at its close, as indicated by reports received at this office:

	Cavalry and artillery horses.	Team horses.	Mules.
On hand July 1, 1891	5,782	276	4,442
Purchased	800	27	71
Taken up (by error in reports received from Departments)	973	32	19
Total to be accounted for	7,555	335	4,532
Sold	852	36	603
Died	118	11	111
Lost and stolen	5		3
Total sold, died, etc	975	47	717
On hand July 1, 1892	6,580	288	3,815

WAGONS, CARTS, ETC.

During the fiscal year ended June 30, 1892, there were purchased:

Kind.	No.	Total cost.	Kind.	No.	Total cost.
Bicycle	1	$143.00	Wagons—Continued:		
Buckboard	1	96.00	Ambulance	102	$21,699.00
Carts:			Coal	1	140.00
Coal	2	139.75	Delivery	1	135.00
Dump	50	1,845.20	Escort	100	9,945.00
Hand	220	3,220.80	Express	1	110.00
Hose	3	216.50	Market	2	350.00
Sled beds	2	65.00	Spring	10	2,147.50
Trucks	4	572.00	Water	1	305.00
Travois	1	36.00	Wheelbarrows	100	375.00
Wagons:					
Army	100	10,835.00	Total		52,369.75

AMBULANCE WAGON.

The ambulance wagon adopted in 1881 having proved to be too heavy, and requiring four animals to draw it readily over heavy roads, a new ambulance of modified pattern and of lighter draft, as shown by accompanying diagrams and specifications, has been devised and approved by the medical department.

One hundred are now being built, at a cost of $207.49 each.

SPECIFICATIONS FOR IMPROVED AMBULANCE (1892 PATTERN) AND LITTER.

SPECIFICATIONS FOR IMPROVED AMBULANCE.

Body.

Dimensions.—To be 9 feet 3 inches long, 4 feet 2 inches wide, 5 feet 3¼ inches high over all; 7 feet 8 inches long back of driver's seat, 3 feet 11 inches wide, 5 feet one-half inch high in the clear, inside. Body to hang 3 feet 4 inches from the ground. Framework of body to be of white oak.

Sills.—Four: Two outside, 10 feet 2¼ inches long, including 11¼ inches for toe board, 2¾ inches wide, 1¼ inches thick, mortised to receive five bows and four studs; two interior sills, extending from front to back bars, 2¾ inches wide, 1¼ inches thick, framed into crossbars 10¼ inches in the clear from outside sills, with tenons one-half inch deep and width of sill to enter crossbars three-fourths inch.

Crossbars.—Five: Mortised 1¼ inches into sills. Front bar 2¾ inches wide, 1¼ inches thick, placed 11¾ inches from front end of sill; back bar 1¼ inches wide, 1¼ inches deep, framed on hind end of sills with 4 inches projection outside of body; the others 2 inches wide, 1¼ inches deep, placed equidistant between front and back bars. Front bar mortised to receive three studs.

Studs.—Side studs placed equidistant between bows, front studs placed one in center and one 4½ inches from each side; all 1¼ inches wide, three-fourths inch thick.

Middle rails.—Three: Two side and one front, all 1¼ inches wide, 1 inch thick, placed 13 inches in the clear above sills. Side rails to project 1¼ inches beyond hind end of body, to receive tail-gate catches, and to be mortised to receive bows and studs.

Panels.—Of three-eighths-inch yellow poplar. Side panels all 9 feet 3 inches long; lower panels 13 inches wide, screwed to inside of studs and bows; upper panels 8¼ inches wide, resting on middle rail and screwed to outside of bows and studs. Front panel, 13 inches wide; length, the inside width of body.

Top rails.—Two: 9 feet 3 inches long, 3⅝ inches wide, three-fourths inch thick, grooved three-eighths inch deep to rest on upper panels, and screwed to outside of bows and studs.

Bows.—Five: Of ash, 4 feet 1 inch, spread from out to out; 1⅝ inches wide, 1 inch thick, gained three-eighths inch on inside for panels, framed into rails and sills so as to be flush on inside of body. Front and back bows placed 1¼ inches in the clear from each end, the others equidistant apart.

Guidon socket.—Of sheet iron, 6¾ inches in length, inclusive of the strengthening bands at top and bottom, and of 1⅝ inch outside diameter; the bottom band is convex on the outside and has a hole in its bottom. Both the top band and the base of the socket terminate in a curved fixed jaw; each fixed jaw has its fellow movable jaw confined to it by a set screw; these curved jaws embrace a rod 8¾ inches long, shaped and bent to receive them; the rod is attached to the front bow of the ambulance wagon on its left side by one 1-inch No. 10 round-head screw at top and bottom.

Ribs.—Four: Of ash, 1¼ inches wide, 1 inch thick, framed into curtain rails equidistant between bows.

Curtain rails.—Three: Two side, and one back, of ash; side rails, 9 feet long, 1¼ inches wide, 1 inch deep, applied from the inside, and framed flush with outside of bows 7¼ inches from top; back rail, 1¼ inches deep, 1 inch wide, frame flush with lower edge of side rails. Side rails secured to bows with round-head screws.

Floor.—Of yellow poplar, one-half inch thick; to consist of four boards, two (in center) each 14 inches wide, and two 9½ inches wide screwed and nailed on top of sills and crossbars.

Tail gate.—Length to be same as inside width of body, 13½ inches high; to consist of one top and one bottom rail, 1⅝ inches wide, 1 inch thick, and three studs, 1¼ inches wide, 1 inch thick, mortised into rails, one in center, and one 1¼ inches from

each end; panel of three-eighths-inch yellow poplar screwed to studs. Top rail to have steel plates 1½ inches wide, one-eighth inch thick, extending 1½ inches over middle rails forming tail-gate springs. Middle rails to have at rear end, let in flush, steel plates 1½ inches wide, three-sixteenths inch thick, 8½ inches long, forming shoe for rail and properly shaped to receive tail-gate springs. To the rear side of bow is let in a one-half by one-eighth inch wear iron.

Hinges.—Three extending full width of gate, of iron, 1¼ inches wide, one-fourth inch thick, fastened to stud with four three-sixteenths-inch rivets. Outer hinges to form loop on top rail over tail-gate springs. Hinges to be secured to back bar of body by three pivot bolts one-half inch square, passing through bar, with nut and washer inside of bar on outside hinges.

Driver's box and seat.—18½ inches deep, 15 inches wide, 3 feet 11 inches long, all in the clear inside; to be formed by a bar of poplar resting on front middle rail, 5 inches high, 1½ inches thick, framed flush with upper panel; and by a backboard of poplar, of length to suit interior dimensions of wagon at that point, 18½ inches wide, seven-eighths inch thick, screwed on back of first stud from front, and additionally secured by corner cleats 1 inch square, extending from floor to top of middle rail.

Seat board of poplar, 17½ inches wide, seven-eighths inch thick, 4 feet long; ends properly notched for front bow. Space between studs and bows to be filled with poplar blocks flush with inside of lower panels to afford rest for extension of driver's seat. Seat board attached to rear side of backboard by two 6-inch T-hinges, which, will be riveted to seat board. To have plates of 1 by one-eighth inch iron on upper side of board, one-half inch from each end, extending its full width and applied with screws. To have a 4-inch hasp and staple; hasp secured by one screw and two rivets near front edge of seat; staple plate riveted to front bar of box.

Lazyback for driver's seat.—Of white pine, 5 inches wide, 1 inch thick, 3 feet 10 inches long, 17 inches high from top of driver's seat; secured to two folding irons, with knuckle joints, formed of five-eighths-inch square iron, flattened to 1 by one-half inch on seat board, extending across board, gradually tapered to 1 by one-eighth inch at front; to extend, flattened, across lazyback let in flush on rear side. Iron to be neatly rounded between lazyback and joint.

Step.—In rear, of oak, 3 feet long, 9½ inches wide, 1 inch thick, hung 17 inches in the clear below top of back bar, and secured to it by two iron stays, seven-eighths inch round at top, flattened at upper end to form "T," 5¾ inches long, 1½ inches wide, secured to under side of back bar by two three-eighths-inch bolts in each stay; lower end flattened and extended full width of board applied to under side 3 inches from ends by three three-eighths-inch bolts, countersunk heads, in each stay. Two braces or branch stays of seven-eighths-inch oval iron, to be welded to main stays at their lower ends. These braces to extend 23 inches forward in the clear from back bar, and to be secured (by one three-eighths-inch bolt in each) to longitudinal bars 2 inches wide, 1½ inches thick, which are framed into rear bar and first bar from rear, 7½ inches in the clear from side sills, with tenons same as described for interior sills. To have plate of 1½ by one-eighth-inch iron on top rear edge of board, roughened and secured with screws.

Toe-board.—Of oak, 3 feet 11 inches long, 1 inch thick, 11 inches wide at ends, 12 inches wide in center, notched into sills 1½ inches in the clear from front bar, secured to sill by three screws in each end. Toe-rail of three-quarter-inch half-round iron, projecting 3½ inches and raised 2½ inches, out to out, from board, having two stays of three-quarter-inch half round iron, flattened and extended 6 inches on board and secured to it by three one-quarter-inch rivets in each stay. The ends of rail to be welded to plates of 2 by one-quarter-inch iron, extending to panel, placed flush with sills, to form steps. Plates secured by five one-quarter-inch rivets in each. The steps and inside of rail to be roughened. To have plates of one-eighth-inch iron, 3½ inches wide, in center and full width of board, cut out for foot lever of brake.

Tool box.—To slide under near side of toe-board; 19¾ inches long, 7⅝ inches wide, 3⅝ inches deep in the clear inside; sides, back end, and bottom of one-half-inch and front end of seven-eighths-inch poplar. Box to slide in grooved bars of oak, 1¾ inches deep, 1 inch wide, having one-half-inch groove three-eighths inch from bottom, placed far enough under sill to clear the front wheel. To have on front side, near back end of box, and on front under side of bars, brass top plates 1 inch square, secured with one screw each. Box to be held in place by a 2-inch brass flush ring bolt, applied by two one-eighth-inch bolts and two screws.

Tanks.—Two: One on each side, of poplar, 24¾ inches long, 9 inches wide on top, 8 inches on bottom, 6½ inches deep outside measure. Sides, top, and bottom one-half inch thick, ends three-fourths-inch; top to project three-eighths inch on each side to form slides. Inside lining to be galvanized iron, well soldered, and to come out flush with the side of top. Top to have a countersunk hollow near the outer end, with opening at least 1½ inches diameter, and closed screw cap having not more

than three threads and vent hole one-eighth-inch diameter, fastened to top by light chain and swivel. Each tank to have a pull of three-eights-inch iron flattened and curved and secured to sides by four screws in each and to have outward sweep of 3¼ inches in the clear to form guard for faucet. Tanks to slide on grooved bars 1¼ inches wide, 1¼ inches deep, extending full width of body, having one-half-inch grooves three-eighths inch from bottom; to have irons, full length and width of bars, one-eighth inch thick, screwed to bottom of bars and the whole secured by four five-sixteenths-inch bolts in each bar, passing through outside and interior sills. Tank to be placed 1 inch below sills (with intervening blocks immediately in front of center bar) and to have one 6-inch brass spring bolt on each, with face plate large enough to admit four rivets; catch to be riveted on also.

Faucet.—To be nickel plated, with five-sixteenths-inch opening entering tank about 1 inch from bottom of front end and projecting not more than 2 inches outside of tank; to have a three-fourths-inch shank and screw flange inside and outside, riveted on.

Inside seats.—Four: Two on each side, of seven-eighths-inch white pine, each 3 feet 8¾ inches long, 14 inches wide, held in position by two legs of five-eighths-inch square iron, secured to floor by knuckle joints let in flush with top of floor. Lower end of leg passes through sills, drawn to form one-half-inch bolt passing through plates of three-sixteenths-inch iron 2 inches square, which are secured to under side of interior sills by four three-sixteenths-inch rivets in each. Upper part of leg to be made five-eighths inch round, 14¾ inches long, tapered to top end and flattened to form an angle to enter loop formed in cross irons on under side of board. Leg irons, when set, are held in position by L-shaped spring keepers, three-fourths-inch wide, one-sixteenth inch thick, 5¾ inches long, secured by two screws. Legs to be arranged to enter loops from inside and to fall toward each other into grooves cut in floor and interior sills to receive them. Grooves to have three drainage holes in each. Cross irons 1¼ by one-fourth inch, full width of seat, neatly swelled to three-eighths inch at ends, where a dovetail hook is formed to enter hole in iron plates 14 inches from floor; also to have additional dovetail hook on bottom, near back of seat, to enter hole in iron plates 21¾ inches from floor. Irons to be secured to under side of seat board, one-half inch from ends by three three-sixteenths-inch rivets in each.

Body plates.—To have eight three-sixteenths-inch socket plates on inside of body, each 11 inches long, 1¼ inches wide, and having two sockets to receive dovetail hooks of inside seats; lower socket to be 1⅝ inches and upper 8¼ inches from bottom of plate, measurement to center of sockets; plates applied two to rear bow, three-eighths-inch forward of back edge, bow to be widened by a one-fourth-inch block on forward side, neatly shaped; 4, in pairs, to oak blocks, 4 inches wide; length the width of upper panel, placed 3 feet 5¼ inches in the clear from rear bow; and 2 to oak blocks, 1¼ inches wide, placed 7 feet, 2¾ inches in the clear, forward of rear bow. Plates to be flush with lower side of middle rail, to be secured to bows and blocks with screws, and to have drop irons swinging on rivets to secure hooks in position in lower socket.

To have plate on back bar, its full width and length, of one-eighth-inch iron, flush with floor, secured with seven screws and step-hanger bolts.

Two stays of one-half-inch round iron to pass through plate and bar, 3¾ inches in the clear from side panels, with shoulders resting on bars, forming three-eighths-inch bolts, nutted on under side. Stay to taper to three-eighths-inch at under side of middle rail, thence flattened for 5 inches and secured to rail, panel, and bow with 3 screws.

Two corner plates of 1 by one-eighth inch iron on outside of front end of middle rail, extending 4 inches each way, secured with 6 screws.

Two wear plates of one-eighth-inch steel, 10 inches long, 1¼ inches wide, secured to under side of sills where wheels run under body.

To have plates of one-eighth iron, 5 inches long, 2¼ inches wide, on under side of interior sills at their junction with second and fourth cross bars. Plates to be applied with six 1-inch No. 10 screws in each.

Hood.—Of three-eighths-inch round iron, shaped as bows, to drop 14 inches from front bow and to swing on inside of bow, to which it is secured by a three-sixteenths-inch bolt with intervening washer.

Stretcher holders.—Four; of 1⅝ by five-sixteenths-inch iron (chamfered on outer edges), each 11 inches long, bent to form two right angles. Lower ends 3¼ inches long, secured to front and rear studs immediately above middle rail by two five-sixteenths-inch bolts in each holder. Space for litter 4 inches wide; top ends of holder curved a little outward.

Mounting handles.—Two curved handles of five-eighths-inch round iron, one on each side, 12 inches extreme length, tapered at ends to three-eighths-inch round, and applied to top rail and front bow by three-sixteenths-inch step bolt 1 inch from top of rail; lower end welded to a 1¾ by three-fourths-inch plate of three-sixteenths-inch iron, attached to upper panel and front bow 3¼ inches from top of panel. Two

mounting handles of leather, cut 16 inches, width 1½ inches, rounded 11½ inches, attached to inside of rear bow on each side, 4¾ inches above top rail, by a suitable malleable-iron strap loop.

Whip socket.—Of approved pattern, secured to front bar of driver's box on off side.

Lamps.—Two silver-plated candle lamps, one on each side. Glass to be 5¾ inches high, 4¾ inches wide; front glass to be white; outside and rear glasses red. Opening for candle to be eleven-sixteenths inch diameter. To have door in rear. Bracket of one-half-inch round iron welded to T plate of seven-eighths by one-fourth inch iron, secured to front bow by 2 three-sixteenths-inch step bolts; bent backwards 5 inches, and upward (to receive lamps) 3 inches in the clear.

Trimmings.—To have inside back-rests extending from second to fifth bows on each side; to be of best leather belting, 3 inches wide, one-fourth inch thick, lined with best russet bag leather and stitched all around three-eighths inch from edge. Rests to to be fastened to each bow by brass plates, 3 inches long, five-eighths inch wide, one-sixteenth inch thick, drilled and countersunk three-eighths inch from each end; a one-eighth-inch tire bolt, with countersunk head, to pass through plate, leather, and bow, with nut on outside. Top of rests 8 inches from top rail. Inside seats and lazy-back of driver's seat to be trimmed with best russet bag leather, all edges welted with the same, and stuffed firm, 1½ inches deep, with best No. 1 gray curled hair. Welting to be five-eighths inch wide, applied with 10-ounce lining nails spaced 2 inches apart. A cushion of same material, upholstered 3 inches deep, to fit driver's seat.

Top, curtains, and hood.—To be of No. 8 cotton duck, securely tacked to curtain rails and front bow. Tack heads to be covered with a fair leather welting three-fourths inch wide along bottom edge of roof and across top of back curtain. Welting secured to rails with two rows of 8-ounce silver lining nails, spaced 4 inches apart in each row, top and bottom rows driven alternately. Side curtains—four on each side—each to have five knob patches stitched on, and to be secured to bows by staple knobs and double wire pins, 1¼ inches long, with loop on one end to admit strap, three-fourths inch wide, 4 inches long. Each curtain to have two roll-up straps 1¼ inches wide and 12 inches long. One back curtain, to have three knob patches on each side and to be secured to knobs on outside of back bow, top rails, and upper panels, and to have four roll-up straps. To have leather stays inside and outside where it strikes the middle rod. One partition curtain, arranged to be knobbed to either front rib or second bow at top; three roll-up straps stitched on to form knob patches; four knob patches at top, two at outside corners, the others equidistant between straps; bottom secured to back of driver's seat with three knob patches and pins.

All patches and straps of best russet bag leather.

Apron.—Lap-apron for driver of best oil-painted duck, with rim hole and flap. Apron to drop 2 inches below sills and to be knobbed to bottom of toe-board 3½ inches in from each side; one knob on each side of front bow 1½ inches above middle rail; one knob in each curtain rail 6 inches from front.

Running gear.

Material.—Wood, unless otherwise specified, to be hickory.

Platform.—To be known as the John McDermott & Brother truss gear.

Wheels.—Sarven's patent. Front, 2 feet 11 inches; hind, 4 feet 3 inches high, exclusive of tire.

Hubs.—Nine inches long; diameter: of flange, 6½ inches; of hub, at point 3¾ inches; at butt 4 inches. Front flange to extend to point band; rear flange to extend flush with butt of hub. Cupped at butt 2⅝ inches diameter, three-eighths inch deep for collar of axle; and at point 2⅝ inches diameter, one-fourth inch deep for collar of nut.

Bands.—Point band of 2¾ by three-sixteenths inch iron projecting 1 inch. To have a band of three-fourths by one-eighth-inch iron, with roughened surface, shrunk on outside band one-fourth inch from point.

Spokes.—Sixteen spokes in each wheel, of second-growth hickory, 1½ inches wide at flange, 1⅜ inches wide, 1⅛ inches thick at rim. Rims sawed and steam-bent (two pieces in each wheel), 1⅜ inches wide, 1½ inches deep. Dowel pins of wood, three-eighths inch diameter, 2 inches long. To have one-fourth-inch rivets on each side of spoke tenons.

Tire.—Of steel 1⅜ by seven-sixteenths inch, with oval edge, secured by 4-inch felloe plates at each joint of rim, and by one bolt in every alternate space between spokes.

Front gear.

Axles.—Of best quality refined hammered bar iron of size not less than diameter of collar.

Arms to be drawn to 1½ inches at shoulder, left square for 10 inches, then cham-

fered 6 inches; remainder round. Length of axle, outside to outside of collar, 52⅝ inches.

Collar: forged solid, 2⅝ inches diameter, three-eighths inch thick.

Spindle 8 1/16 inches long between collar and nut, drawn to a diameter one-thirty-second inch less than inside diameter of box; to have right and left hand threads (United States standard, eight threads to the inch), outside diameter of threads at point seven-eighths inch. To have suitable oil groove on top surface of spindle.

Axle boxes.—Of best gray cast iron, 8⅝ inches long, 1 9/16 inches diameter at butt, 1⅝ inches at point; wall, three-eighths inch thick.

Nut.—Of malleable iron, 1⅝ inches square, with three-sixteenths inch hole through nut and axle; collar of nut 2¼ inches diameter, one-fourth inch thick. Whole length of nut 1¼ inches.

Track.—Five feet from center to center of wheels.

Gather.—Front, three-eighths inch; hind, one-half inch.

Springs.—Platform, No. 4 steel, ribbed and oil tempered. Side springs 43 inches long (center bolt 22¼ inches from front end), seven plates; cross-spring 46 inches long; eight plates, all 1¼ inches wide with 4¾ to 5 inches sweep when wagon is set up. Front eyes to be one-half inch round holes formed by two plates each. Eyes on hind end also formed by two plates, to be one-half inch high, 1¼ inches long. Hanger bolts to be placed near back end of eye, allowing spring to elongate. Cross-spring eyes to be similar to rear eye of side spring.

Attachment of springs—The front end of side springs are secured between suitable lugs formed on lower plate of splinter bar; the cross-spring is attached to an oak block 21¼ inches long (including 1⅝ inches finish at each end), 1¼ inches wide, 2¼ inches deep in center, tapered up to 1⅝ inches deep at side futchells, having a bearing of 7 inches on spring, and secured to it by two 1 by one-fourth inch wrought-iron clips, gradually widened to 1⅝ inches on top of block and forming seven-sixteenths inch bolts, nutted, and taking coupling plates of seven-eighths by seven-sixteenths inch iron. To have 1¼ by three-sixteenths inch keeper plate between coupling plates.

Block to be further secured by five-sixteenths inch anchor bolt, which passes through spring and pole futchells. The block is secured to side futchells by clips of three-fourths by three-eighths inch iron, widened to 1¾ inches on top and forming three-eighths inch bolts, nutted, taking coupling plate of 1 by one-eighth inch iron. To have plate of one-eighth inch iron, 18 inches long, 1¼ inches wide, on top of spring block, secured by futchell clips and spring bolt.

The side springs to rest on wrought-iron axle blocks 4¼ inches long; measurement on the axle, one-half inch deep in center; width of spring, with lugs projecting downward five-sixteenths inch to clasp axle and with intervening block of oak, three-fourths inch deep in center, shaped to receive springs. Springs and blocks secured to axle by two wrought-iron clips, seven-sixteenths inch square, forming three-eighths inch bolts, which take seven-eighths by one-half inch coupling plates on top of springs, with suitable keeper plates on springs and axles.

Futchells.—Pole futchells, one piece, 4 feet 3¼ inches long, 2 inches thick, 7 inches wide at point, tapering to 1¼ inches wide at back end, cut out 24 inches in length, 4⅝ inches in width at point, and 1¼ inches in width at back end, forming jaws to receive pole.

Plates.—Of one-eighth inch iron, on inside of jaws, their full width, and 20 inches long, each secured by four three-sixteenths inch bolts; heads countersunk in plates. To have a solid plate of three-eighths inch iron on under side of futchells, full size of under surface, swelled to five-eighths inch thick from rear pedestal of fifth wheel, secured by splinter-bar bolts, transom bar bolts, and fifth-wheel bolts. To have a plate of three-sixteenths inch iron, 1¼ inches wide, cranked down 1¼ inches from bottom of pole house, secured under the front of fifth wheel by two fifth-wheel bolts. On top of this plate a piece of solid rubber, 1¼ inches wide, one-half inch thick, fastened to the plate by two three-sixteenths inch rivets. A plate of 1¼ by three-sixteenths inch iron on top of futchells, 20¼ inches in the clear from point, secured by two five-sixteenths inch bolts.

Side futchells.—Two, each 3 feet 11¼ inches long in the clear; 1¼ inches square, rounded for finish; arched 1⅝ inches, mortised into splinter bar 35 inches apart out to out, and resting on cross-spring block 15¼ inches apart over all at rear side, and secured by seven-sixteenths inch wrought-iron clips. (See cross-spring block.)

Truss under side futchells, formed of eleven-sixteenths inch round iron, flattened for 8¼ inches at forward end to full width of side futchells and carried under and secured to futchells, together with branch plate of splinter bar; extending back, gradually reduced to one-half inch diameter, to an iron pedestal 1⅝ inches high placed under transom bar, where it crosses side futchells, there forming a boss three-eighths inch thick; thence extending back, gradually increasing in thickness, to the rear of side futchells, where it is flattened for 11¼ inches to full width of futchell

and seven-sixteenths inch thick; truss secured at rear end by one-fourth inch anchor bolt, and by one five-sixteenths inch bolt 8 inches forward of anchor bolt.

Splinter bar.—Four feet 7 inches long; 1¼ inches square, resting on pole futchells 4 inches from front end; arched 2 inches, and secured to futchells by two three-eighths inch oval-head bolts, which also take lower plates. Opening for pole at front of splinter bar 2⅜ inches high (three-eighths inch cut out of bar).

Plates.—Plate on under side of one-half inch iron, width of bar, extending full length of flat surface; thence three-fourths inch oval to pole futchells; then flattened to pass under futchells, with lugs 1¼ inches high formed on outside of futchell; the plate to extend up on ends to meet top plates and to have branch plates 1¼ inches wide, 9¼ inches long, on side futchells, tapered from three-eighths inch thick to one-eighth inch. Bar to have top plates of 1¼ by five-sixteenths inch iron, extending 15 inches from ends and 8 inches on side futchells; top plate to extend down at ends to meet lower plate and to have roughened step 3¼ by 1¾ inches formed upon it. Top plates secured to bar by four five-sixteenths inch bolts in each (one countersunk head in step), which also take lower plates, and to side futchells, by two five-sixteenths-inch bolts, which also take lower branch plate and truss.

To have plate of three-sixteenths inch iron in center, 7¾ inches long, 1¼ inches wide, secured by bolts which also takes lower plate of bar and pole futchells.

Double-bar bolt.—Three-fourths inch round iron, welded to iron plate 6¾ inches long, 2¼ inches wide, one-half inch thick; to have branching stays of one-half inch round iron on ends (forward side) sweeping up and back and bolted to front side of splinter bar, 11 inches in the clear from ends, by two bolts in each branch; plate secured to futchells by two three-eighths inch bolts, heads countersunk, with nut on top.

To have branching stay of five-eighths inch iron, with boss 1¼ inches outside diameter through which the bar bolt passes, the stay secured to pole futchells 10¼ inches from point by three-eighths inch bolts in each futchell.

Transom bar.—Twenty-eight inches long, 2 inches square; 21 inches in the clear from splinter bar, resting on top of pole futchell and under side futchell, with 1¼ inches finish outside; cut out to come flush with top of side futchells.

Stay.—To have stay of seven-eighths inch oval iron on under side, flattened on bar for 8¼ inches at each end, secured by two pedestal bolts and one five-sixteenths inch bolt on each side; iron extending under pole futchell with boss formed in center, 1¼ inches outside diameter, one-half inch thick, to receive the kingbolt.

Transom plate.—Upper and lower, of one-half inch iron, 2 inches wide, tapered at each end, swelled in center, where lugs are formed on both plates to clasp transom bar and head block; lower plate shoulder to receive upper transom plate and secured to bar by four bolts (two futchell bolts and bar-stay bolts); upper plates secured to head block by four three-eighths inch bolts, two of which take outside bar of top platform.

Fifth wheel.—To consist of two 25-inch circles of iron, each 1¼ inches wide, three-eighths inch thick, with iron hoops three-fourths inch wide, three-sixteenth inch thick, shrunk and screwed on outer edge of upper half to receive half which rests on side futchells and three iron pedestals, 1⅝ inches high, and is secured with five three-eighths-inch countersunk bolts passing through side futchells and pedestals. Top half to have three oil holes equidistant apart, and to be secured by eight three-eighths inch countersunk bolts passing through head block, upper pedestal and platform bars, with nuts and washers on top.

Chair of platform.—To consist of the following, viz: Three bars, each 4 feet 5 inches long, including 1¼ inch finish outside of sills; center bar 2 inches thick; outside bars 1¼ inches thick; all 3¼ inches deep in center, 2⅜ inches at fifth wheel; hollowed 1¼ inches between bearings; chamfered up to 1¼ inches square under sills, and sunk one-half inch on head block. Bars secured to outside sills by five-sixteenths inch bolts. Front bar to be flush with front sill, others placed 6 inches apart in the clear.

Head block.—Thirty inches long, including 2¼ inches finish at each end outside of fifth wheel, 2 inches thick; to be 3¼ inches deep at top platform bars, hollowed 1¼ inches between bars. Block to rest on top half of fifth wheel, secured by transom plate and fifth-wheel bolts.

Pedestals.—Six: Of wood, neatly turned, 3 inches long, 1¼ inches diameter top and bottom, 1⅝ inches at center, resting on top of fifth wheel at bar crossings; bars and pedestals to be secured to upper half of fifth wheel by three-eighths-inch countersunk bolts.

Body bolt (or kingbolt).—Of three-fourths-inch iron, 13 inches long; upper half to be square, lower half rounded with shoulder resting on lower transom plate, with nut on top and bottom. To have suitable hole in floor under driver's seat for convenience in removing bolt.

Double bar.—Forty-one inches long, center to center of singletree clips, with 2¼ inches finish outside of clips; 2¾ inches wide in center, 2¼ inches wide at end clips, 1¼ inches thick. To have plate on top in center, 6¼ inches long, 2¼ inches wide, three-eighths-inch thick; bar to be rounded up to plate; plate on bottom, 13 inches long, 1¼

inches wide, three-eighths inch thick, slightly reduced at ends, with boss 2 inches diameter, one-half inch thick, formed in center, having a thirteen-sixteenths inch hole to receive bolt. Lower plate secured by four bolts—two three-eighths inch taking upper plate, with countersunk heads, and two three-sixteenths inch bolts at ends. To have singletree-wear plates 3¼ inches long, shaped as felloe plates, applied 1¼ inches in the clear from center on forward side of bar.

Clips.—Of wrought iron, at each end, for attachment of singletrees; bow of clip one-half inch round iron, widened to 1¼ by three-sixteenths inch on bar, and secured by two five-sixteenths inch bolts, to have wear plates 2¼ inches long and width of bar, in rear of clip, and wear plates under bow of clips.

Singletrees.—Thirty-three inches long, 2¼ inches diameter in center, 1⅝ inches at ends, with 1-inch ferrules; to have three-eighths inch cock-eyes 3¼ inches long at ends, carrying three-eighths inch welded rings, 1¾ inches inside diameter. To have one-half inch forged staple in center taking nut on forward side and wear plates on both sides.

Hind gear.

Axle and springs.—Same as described for front gear.

Attachment of springs.—The front ends of side springs are secured by a one-half-inch bolt, 3¾ inches below sills, between two lugs formed of one-half-inch iron, which pass through spring bar (which see) and intervening plate of 1¼ by one-eighth-inch iron, 4 inches long, and take countersunk nuts in sill. Springs are secured to axle same as front side springs, with the exception that the iron block is 1 inch deep in center and intervening block of wood is omitted.

Front spring bar.—Four feet 5 inches long, including 1¼ inches finish on each end; 2 inches wide, 2¼ inches deep, secured to body 3 feet 10¼ inches in the clear from rear end of sills by three three-eighth-inch bolts—two in outside sills and one in center sill. Bar to be hollowed between plates (see hind side springs attachments) to 2 inches deep, and chamfered for finish.

Hind cross-spring bar.—Same length and width as front, 4⅝ inches deep in center, with bearing 7 inches long on spring, and chamfered up to 1¼ inches deep under outside sills, secured to body by four three-eighth-inch bolts—two in outer sills and two through the longitudinal bars to which the step braces are secured.

The hind cross-spring is attached to bar by clips of 1 by one-fourth-inch wrought iron, widened to 1⅝ inches on top of bar and forming seven-sixteenths-inch bolts, nutted, and taking coupling plates of 1 by one-half-inch iron under spring, with 1¼ by three-sixteenths-inch keeper plates between coupling plates.

Pole.—Of ash, extreme length 11 feet 6 inches; 2 inches thick, hind end to fit in pole futchells, gradually tapering to 2 inches square at front end; to have upward curve of 1¾ inches at point of futchells. Pole secured to futchells by pivot bolt of seven-sixteenths-inch iron, which passes through futchells and pole 7¼ inches from front end of futchells.

Clevis.—Omnibus pattern; of one-half-inch iron welded into side plate of 1 by three sixteenths-inch iron, 6 inches long, secured by two five-sixteenths-inch bolts.

Chains.—Two pole chains of one-fourth-inch iron, twisted links, 20 inches long, exclusive of connecting link and end ring. Chains to be covered with leather and to be attached to clevis by a straight link of three-eighths-inch iron, 3¼ inches long, and to have a pear-shaped ring of three-eighths-inch iron, 2¾ inches long, at free end.

Brake.—To consist of three levers (two rear and one foot lever) with connecting-rod and attachments.

Back lever of 1¼ by three-fourths-inch iron, the lever on near side to extend 2¼ inches beyond center, curved upward from the journal to receive connecting-rod. These levers are held in position 3¼ inches in the clear below sills by a journal formed on an L shaped plate of 1¼ by one-half-inch iron, 7 inches long on outer sill, 6 inches long on center cross bar, secured to sills and bar by four five-sixteenths-inch bolts; levers to be joined together by two plates of seven-eighths by one-eighth-inch iron, 2 inches long. Journals to be 6 inches long, 1⅝ inches diameter at plate, with shoulders 1¾ inches diameter to rest on levers. Pivots, seven-eighths inch diameter, to pass through levers which are swelled to 2¼ inches diameter, 1¼ inches thick; levers are gradually tapered to within three-fourths inch of brake blocks, where they are rounded to 1¼ inches diameter to form shoulders against blocks.

Journals to carry a stay of three-fourths-inch round iron on under side of lever, with boss, 2¼ inches diameter, one-half inch thick, on journal. Stay to take the attachment bolt of hind side spring on inside, with boss, 1⅝ inches diameter, one-half inch thick; thence extending to sill, 5¼ inches in the clear from front spring bar, flattened to five-eighths by three-eighths inch and secured to sill with two five-sixteenths-inch bolts.

Brake blocks, of iron, 9¼ inches long, 2¼ inches wide, 2 inches thick in center, with

three-fourths-inch hole, 1¼ inches from face to center of hole, to receive levers, to which they are secured by eleven-sixteenths-inch hexagon nut.

Foot lever.—One and one-fourth inches wide, one-half inch thick, tapered toward ends to 1 inch wide; to have footrest 5 inches wide, 1 inch deep, neatly welded at top and centered on lever. Extreme length of lever 24 inches.

Fulcrum plate.—One and one-fourth by one-half inch iron, 10 inches long, having boss 1¼ inches diameter, one-half inch thick, formed on it, with shoulder five-eighths inch diameter to receive lever, which is secured by hexagon nut; plate secured to head block, on off side, by two five-sixteenths-inch bolts.

Connecting-rod.—One by one-fourth inch iron, 5 feet 3½ inches long, having clevis at rear end to take back levers, with three-eighths-inch bolt, and at front end to take foot lever, 5½ inches above fulcrum, with five-sixteenths-inch bolt.

Throw-off spring.—Coiled, 12 inches long, of No. 7 brass wire; outside diameter of spring 1 inch, secured at forward end by eye formed on connecting bolt of back lever, and at the rear end to a plate of 1 by one-fourth inch iron 15½ inches long, resting for a distance of 6½ inches on a central longitudinal bar 2 inches wide, 1½ inches thick, which is framed into second and third cross-bar from the rear, with tenons same as described for interior sills Plate secured to bar by two one-fourth inch bolts, and to be cranked down 3½ inches at forward end with hook formed to receive spring.

Painting.—Body and gear, with exception of bows above rails, ribs, and curtain rails, will be painted a dark olive-green. A first coat of raw linseed oil to be laid on hot; then one coat of lead priming, then two coats of olive-green mixed with linseed oil; then a coat of finishing varnish, Chamfers, hub bands, bolt heads, and small irons to be painted black. Bows, ribs, and curtain rails will be oiled and varnished. Top and hood will have two coats of raw linseed oil. A red Geneva or Greek cross, 6 inches long, on a white ground 8 inches square, will be painted in first; and the letters "U. S.," in bright yellow, 5 inches in height, in the second lower panel on each side between first and second bows.

General provisions. All wood work, unless otherwise specified, to be of best quality forest growth, thoroughly seasoned and free from defects. Iron, unless otherwise specified, to be of best quality stone coal. All clips, bolts, and rivets of Norway iron. Screws of steel. Paints and oils strictly pure and of best quality. Varnish of good quality. Axle boxes and rim tenons of spokes to be well wedged. Tenons to be driven with white lead and secured with wooden pins. Inside of axle boxes to be perfectly smooth and true, free from sand holes or other imperfections. All parts of woodwork to be neatly edged, chamfered, or rounded. Sharp corners of bows and ribs to be removed. All welds to be smooth and strong. All projecting ends of rails and bars to have three-sixteenths-inch rivets passing horizontally through them. Washers under all nuts coming in contact with wood; and the work in all its parts to be faithfully executed in the best workmanlike manner.

The maker's name and date of contract to be neatly inscribed on a metal plate which will be applied to back spring bar between spring clips.

Parts interchangeable.—The wagon to be so constructed as to be interchangeable, requiring no numbering or arranging for putting together.

Outfit.—To consist of two hand litters, made as per specifications; one 12-inch monkey-wrench of approved pattern, one extra king bolt, and two extra axle-nuts, one each of right and left hand threads.

Inspection.—The work shall be inspected from time to time as it progresses by an officer or agent of the Quartermaster's Department, and none of it shall be oiled or painted until it shall have been inspected and approved by said officer or agent.

SPECIFICATIONS FOR LITTER.

Side poles.—Two, of clear-growth ash, 7 feet 7½ inches long, 1⅞ inches square, and corners slightly rounded; to have handles at each end 9 inches long, slightly larger at ends than in the middle of grip.

Legs.—Four combined litter legs and traverse brace-holders, of malleable iron, upper portion to form embracing band 1¾ inches wide, one-eighth inch thick, to receive side poles of litter. Lower end to form a stirrup-shaped leg with tread 1¾ inches wide, three-sixteenths inch thick. Opening in stirrup 3¾ inches deep, 4 inches wide. Stirrup to have cross plate one-sixteenth inch thick, three-eighths inch from top, to serve as support for lower end of attachment bolt and for wear plate under nut, and to be cut out on inside edges to permit litter to be folded and to hold traverse braces in position when closed. Legs are to be applied to litter 22 inches in the clear from each end by one-fourth inch bolts, which also secure traverse braces; bolts to pass through center of stirrups one-half inch from inner edge of side poles, with heads countersunk in embracing band on top of side poles.

Traverse braces.—Two, of 1 by three-eighths inch wrought steel, each formed in two pieces, one 14 inches, the other 11 inches long. The short piece is drilled to receive two one-fourth-inch rivets—one near end to pass through the long piece to form

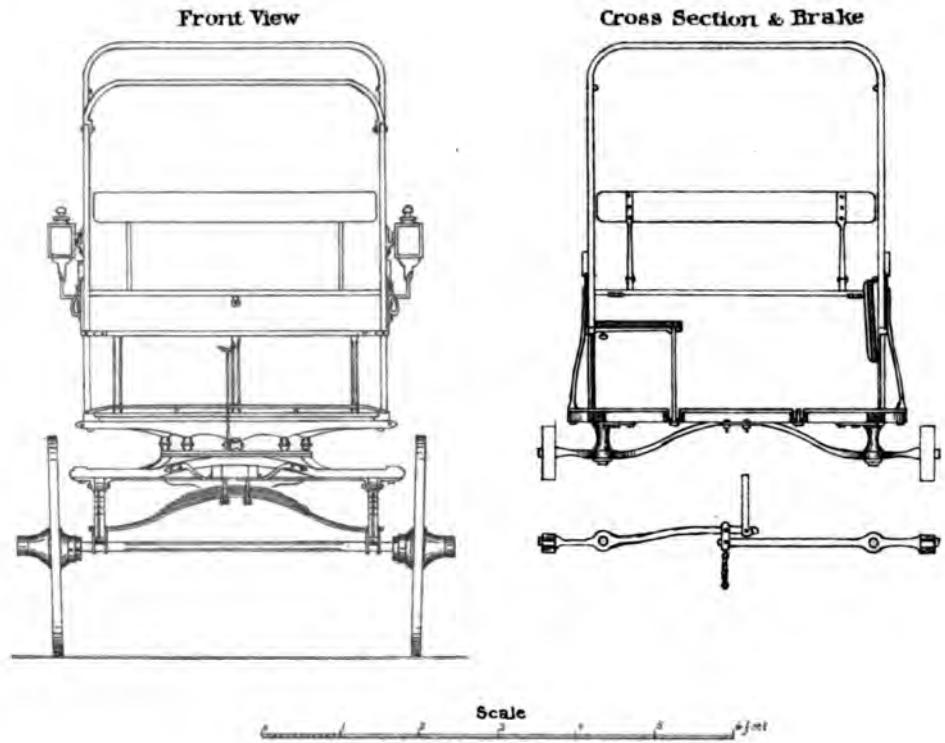
hinge, the other 2¼ inches distant center to center, entering slot formed near end of long piece. These braces will be so arranged that when extended the litter shall be 22 inches wide out to out of side poles.

Traverse straps.—Two, of fair leather three-fourths inch wide, 22 inches long inclusive of ring, one end of each to be secured to a one-eighth-inch staple (with 1-inch lap) by four copper rivets. Staple to be driven into side pole 18 inches in the clear from ends, and one-half inch in from outer edge of pole; the other end to pass through similar staple on opposite pole, driven three-fourths inch in from its inner edge, and to have a three-fourths-inch D ring applied with 1-inch lap and four copper rivets. To have a seven-eighths inch snap attached to last-mentioned staple by a chape of fair leather, to which it is secured by two copper rivets.

Canvas bed.—Of 12-ounce linen duck, 27 inches wide, dyed dark reddish brown, 6 feet long, finished. To have 6-inch fold at each end and about 1¼-inch fold on each side. Bed is applied to side poles by 10-ounce silver-head lining nails spaced 1 inch apart. Poles to be grooved to receive the canvas, so that its surface when tacked will be flush with the exposed wood of the side poles; ends of canvas to be at equal distances from ends of handles.

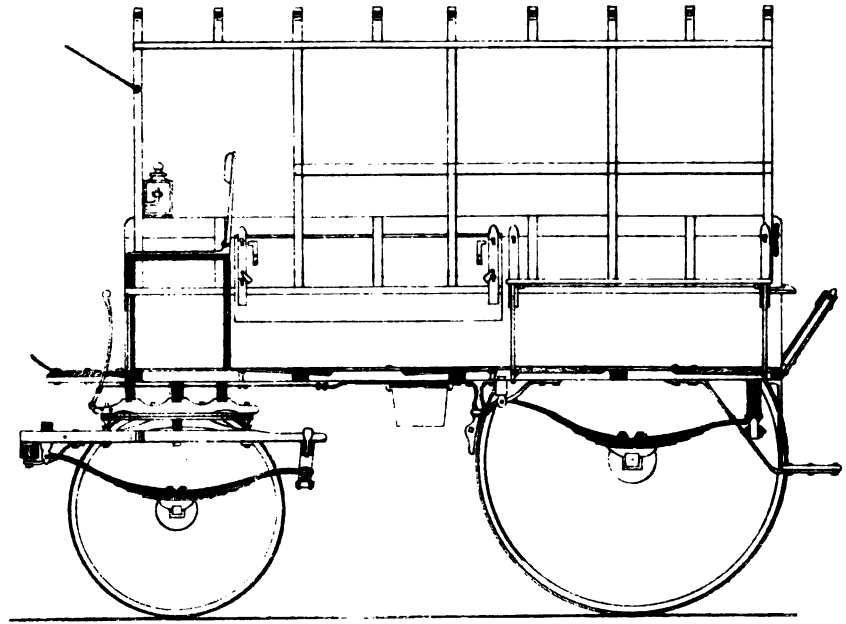
General provisions.—All material to be of best quality Side poles to have a good coat of boiled linseed oil applied hot. Irons to be painted black. All work to be done in the best workmanlike manner and subject to the usual inspection.

JEFFERSONVILLE DEPOT OF THE QUARTERMASTER'S DEPARTMENT,
Jeffersonville, Ind., September 10, 1892.



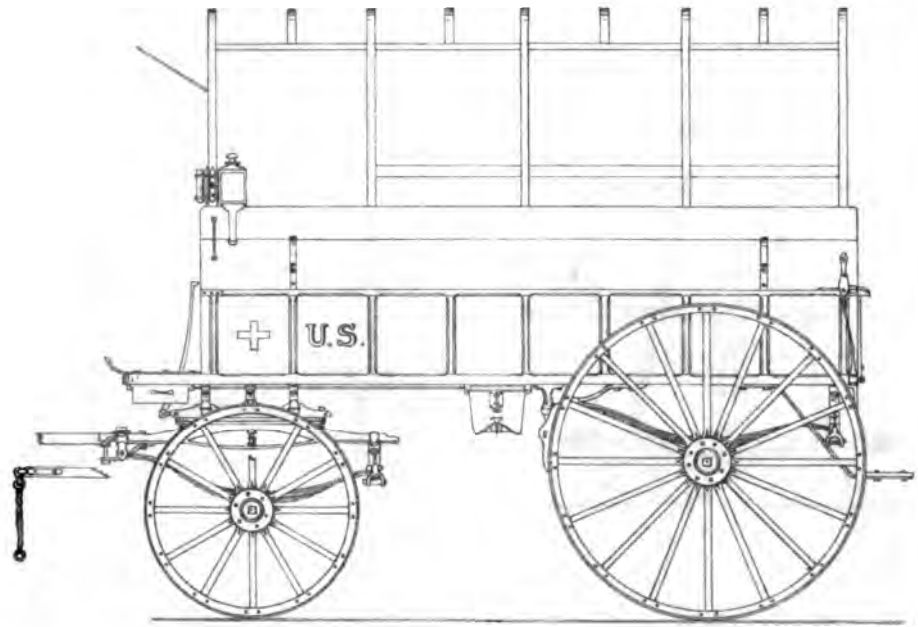
AMBULANCE OF 1892 PATTERN.

Centre View



Scale

AMBULANCE OF 1892 PATTERN.



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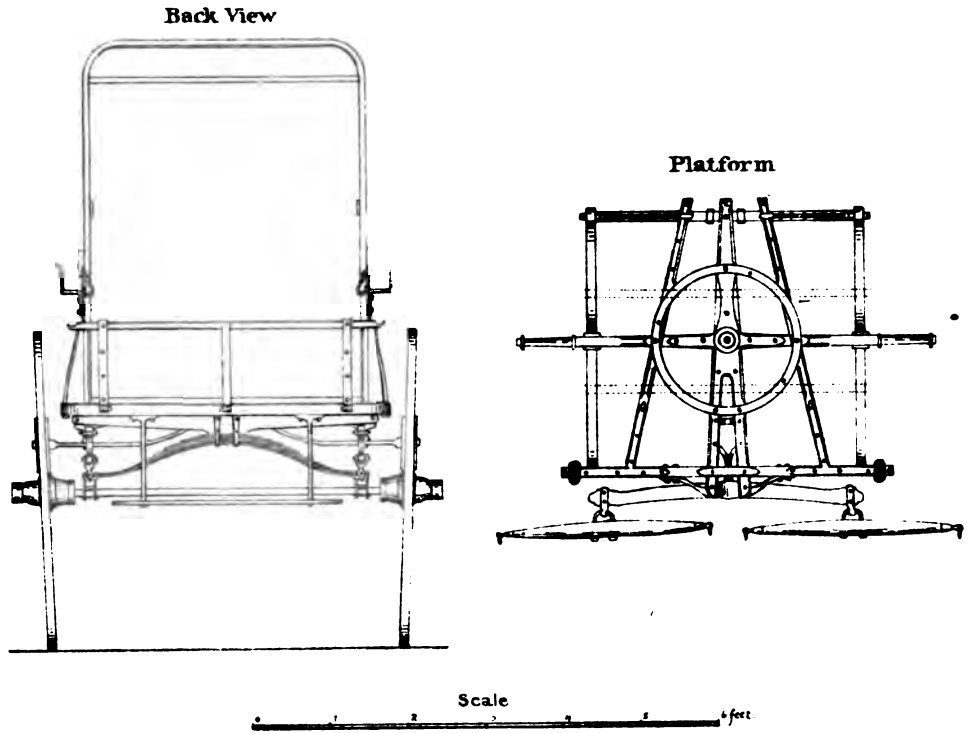

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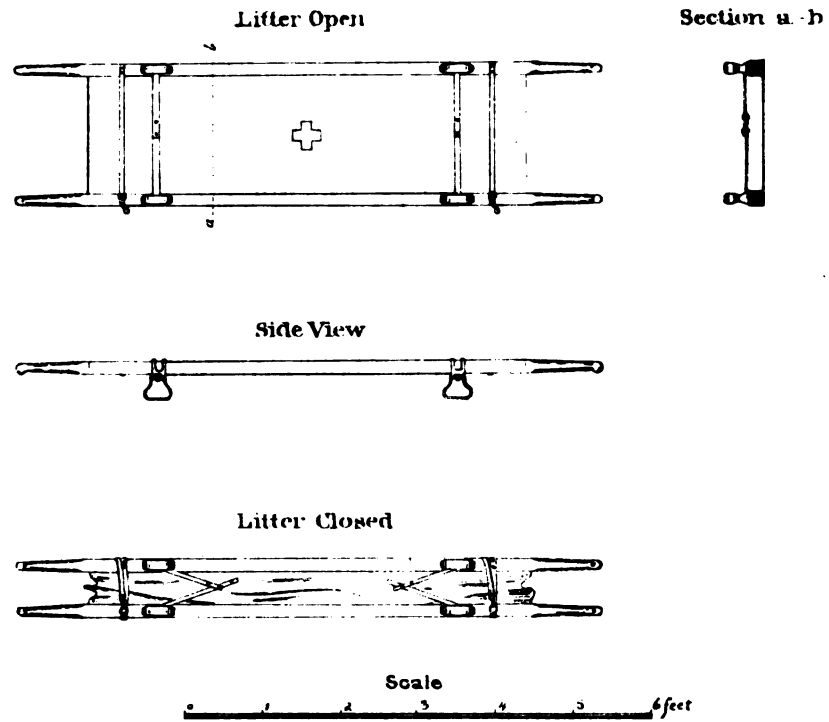


LITTER FOR AMBULANCE OF 1892 PATTERN.

War 52 2

ILLUMINATING SUPPLIES.

During the fiscal year 1,502 lamps (pendent and bracket), 19 lanterns assorted), 13 lamp-posts, 6 hand lamps, and the necessary chimneys, vicks, and the various parts required for expenditure and repairs were ›urchased at general depots at a cost of $11,657.09. Twenty-one thou- ;and three hundred and seven gallons of gasoline were purchased, at a :ost of $2,983.27. Four hundred and sixty-three thousand three hun- lred and forty-three gallons of mineral oil were purchased, at a cost of $71,947.74. Expenditure for gas and matches, $6,975.30. The aggre- ;ate expenditure on account of said illuminating supplies was $93,563.40.

The money received from sales of illuminating supplies to officers re- ;erts to the appropriation for regular supplies.

LAMPS.

The army lamp adopted in 1881, having a circular wick of seven- ›ighths of an inch inside diameter and a photogenic power of 16.83 ;andles, having become superseded by the many improvements in lamps ;ince that date, this Department has adopted lamps of special design, ıs follows.

One-light, bracket, with circular wick 1½ inches diameter.

Two-light, pendent, with circular wick 1½ inches diameter.

The burner adopted is somewhat similar in construction and appear- ınce to that of the "Rochester" and "B. & H.," and is known as the 'Parker." It has a lighting power of about 65 candles, or nearly four ;imes that of the old style, with a consumption of about 4 ounces of nineral oil per hour against 2 ounces in the latter.

The chimneys and wicks used are the same as those for the "Ro- :hester" and "B. & H.," and are of domestic manufacture and obtained ınywhere throughout the country. The chimneys rarely break with ›rdinary usage whereas the lamps formerly used required student-lamp chimneys, which are generally made in Germany, and which were ›roken very easily and necessitated the issue of large numbers of them :o each military post. These new lamps supply a long-felt want, and, ›y their increased light, render the soldiers' quarters far more habitable ınd attractive. The absence of all complaint against them attests :heir appreciation by the Army. Diagrams and specifications of them ıre appended.

ONE-LIGHT BRACKET LAMP.

All parts made of brass, except such as may be hereafter indicated, and all nickel ›lated.

Wall plate (Fig. 4), with sockets for support of fixtures, cast brass, weight 9¼ ›unces, secured by three 1¾-inch No. 14 iron wood-screws (Fig. 15).

Annular rings for support of body of lamp (Fig. 3), cast brass, weight 6¼ ounces ;ach, diameter 4 9/16 inches.

Wire for attaching fixtures to wall plate (Fig. 5), five-sixteenths diameter iron wire, threaded on top end five-sixteenths of an inch, milled on bottom end 1⅝ inches, ınd threaded nine-sixteenths of an inch. Top and bottom threads 24 to the inch and ;ecured at each end by conical nuts of cast brass, weight one-half ounce, each drilled ınd tapped.

Oil reservoir (Fig. 1), No. 21 gauge brass tubing (brazed) 4½ inches in diameter, 6 inches long, having spun cap on top 2¾ inches in diameter at its extremity, and hav- ing soft-soldered on bottom end a spun funnel (Fig. 14) 2¼ inches in diameter.

Outer shell for oil reservoir, No. 21 gauge brass tubing (brazed) 6¼ inches long, 4⅝ inches in diameter, being open at top and lower end being closed with a spun bottom,

soft-soldered thereto, this bottom being the medium for supply of oil from reservoir to feeder tube, which is of brass nine-sixteenths of an inch in diameter, No. 17 gauge, 6 inches in length, and having cast-brass ornaments, soldered midway, and is bent 1 inch out of the direct line to provide air space and prevent oversupply of oil to the burner tube, the inner end being soldered to body of lamp, the bottom of reservoir at point of connection being reinforced by a cast-brass block; the outer end (toward burner tube) having a cast-brass sleeve soldered thereto, its purpose being to reinforce the burner tube.

Burner tube, No. 25 gauge brass tubing $2\frac{7}{16}$ inches in diameter, 5 inches long, being closed (soldered) at lower end with a cast-brass threaded plate, open in center to admit passage of air through wick tube; the drip cup (Fig. 11) being attached to threaded portion, making it detachable and the wick tube being soldered. The drip cup (Fig. 11) is of spun brass $2\frac{1}{8}$ inches in diameter, $1\frac{1}{4}$ inches deep, and has an inner ring of cast brass with thread three-eighths of an inch deep to attach to threaded plate just mentioned. Wick tube, No. 21 gauge brass tubing $1\frac{7}{16}$ inches in diameter, $6\frac{1}{4}$ inches long, has an annular ring rolled in $1\frac{3}{8}$ inches from top, with which the springs attached to flame-spreader (Fig. 7) engage.

Flame spreader (Fig. 7) is composed of a taper cone $1\frac{3}{8}$ inches in diameter at its largest circumference and thirteen-sixteenths of an inch at its smallest, and a sheet-steel cap, No. 17 gauge, $1\frac{3}{4}$ inches in diameter. Commencing at the top or smallest end, the cone is perforated with graduated air-spaces for $1\frac{3}{8}$ inches, the smallest being No. 57 Stubbs' drill gauge and the largest No. 48; is secured to wick tube by three steel springs 1 inch long and one-fourth of an inch wide, projecting five-sixteenths of an inch below the bottom, and having wedge-shaped ends, which engage with the annular ring in wick tube before described; the springs and sheet-steel cap being fastened to cone by brass rivets.

Wick-raiser (Figs. 9 and 10), No. 9, is an annular ring provided with an extended ear, this ear having an elongated slot which admits of the free horizontal motion of the lifter rod, with which the ring is connected at this point by means of a screw. This lifter rod extends upward through an opening in top of oil chamber or burner tube, and is provided at its upper end with a knob or handle to prevent its casual descent into oil chamber. This ring is also provided with two vertically projecting arms, attached at one end to the annular ring by means of rivets; these arms are perforated near their upper ends and provided with guide grooves through which the pins on wick-carrier (Fig. 10) are guided to place in the perforations. Wick-holder (Fig. 10) is brass tube, No. 25 gauge, $1\frac{3}{8}$ inches in diameter, 2 inches long, provided with three spring fingers which are pierced or toothed at their movable ends to engage with the wick; it is also provided with two projecting pins midway, and at points directly opposite each other, which engage with the perforated projecting arms of the wick-carrier.

Chimney gallery (Fig. 6), an annular perforated brass shell, $2\frac{1}{4}$ inches in diameter, $1\frac{3}{4}$ inches long, provided with four spring fingers attached by rivets for the purpose of holding the chimney; also provided with three upward and horizontal-shaped grooves, known as bayonet locks, for the purpose of attaching to burner tube; also has inner annular tube, No. 25 gauge, $1\frac{3}{8}$ inches in diameter, $2\frac{1}{4}$ inches long, this being the guide through which the wick is raised and lowered.

Reflector (Fig. 2) is brass, No. 21 gauge, 10 inches diameter, the edge being provided with a bead for the purpose of strengthening, is provided with a cast-brass double-eared lug, which is provided with two holes through which the screw (Fig. 13) passes, and which admits of throwing the light in any direction desired, the lug being soldered in center of reflector and pivotedly connected with adjustable ear (Fig. 13); all being removably attached to Fig. 12, which is an iron wire, No. 2 gauge, $6\frac{1}{4}$ inches long, threaded at each end, and provided with hexagon nuts, which secure it to annular rings for support of body of lamp.

Entire weight of fixture, $7\frac{1}{4}$ pounds.

CHANDELIER OR PENDENT LAMP.

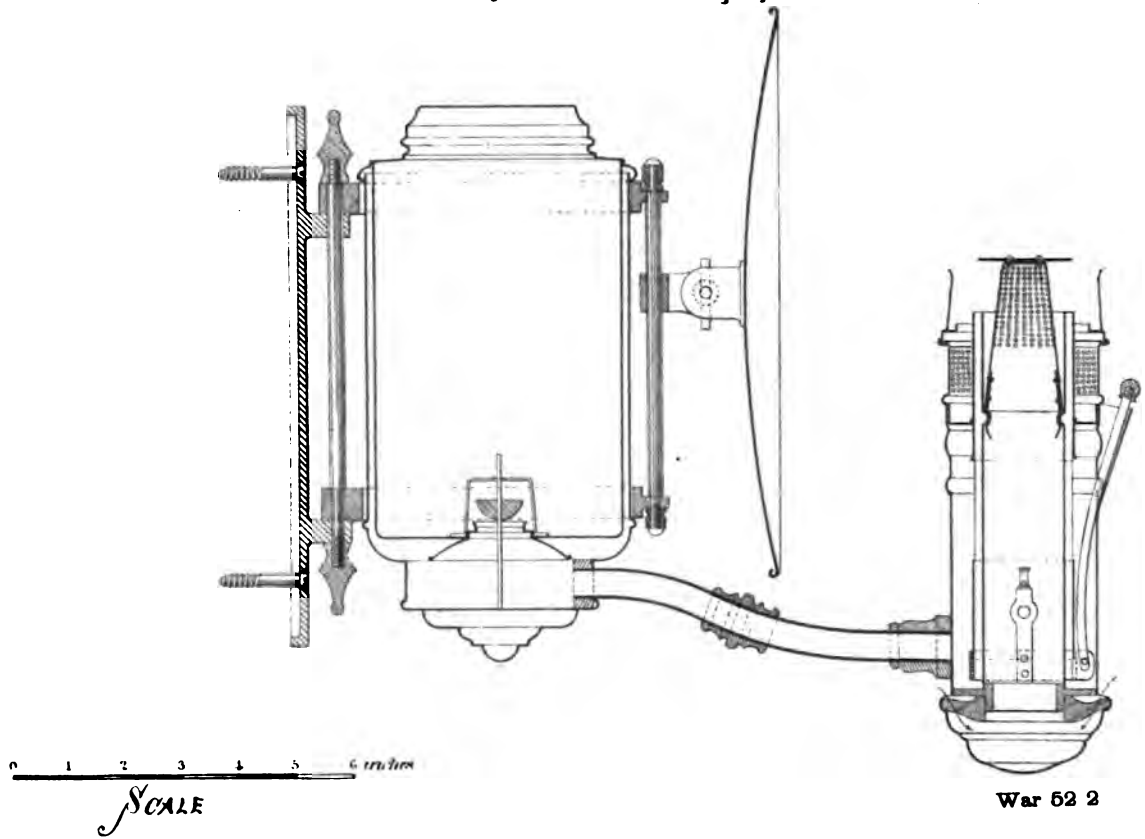
Suspended from ceiling by means of cast-iron chandelier hook (Fig. No. 1), having screw $2\frac{1}{2}$ inches long, No. 10 wire, and ornamental wall-plate $2\frac{3}{8}$ inches in diameter.

Canopy and suspension tube (Fig. No. 2), consisting of a brass tube, No 18 gauge, 14 inches long, seven-eighths of an inch in diameter, threaded at its upper end to fit a retaining nut which clamps the canopy, which is 21 gauge spun brass, 14 inches in diameter, $1\frac{1}{2}$ inches deep. The tube has a collar soldered near its upper end which forms a seat for the canopy. The tube is also provided with a three-eighths-inch threaded nut soldered on its inner upper end, which admits a threaded stem, it being soldered in place and surmounted by a swivel or cast-iron loop $2\frac{3}{4}$ inches long, $1\frac{3}{4}$ inches wide, weight $4\frac{1}{2}$ ounces, having a loose hole, permitting a rotary motion of entire fixture, the lock being a three-eighths of an inch threaded nut, which is at-

tached to threaded stem above mentioned, the stem being upset at its upper extremity. The tube at its lower end is closed with a three-eighths-inch threaded nut soldered therein for the purpose of sustaining the body of fixture, the tube and nut being drilled and tapped to admit a pin five-thirty-seconds of an inch in diameter, which passes entirely through and is brazed both sides, thus making the joint rigid. The frame of fixture is attached to suspension tube by a brass casting 1½ inches in diameter, being turned on top, half inch in length to three-eighths of an inch in diameter and threaded, forming the screw for the nut above described. This casting is also drilled in the center to admit the tubing which forms the frame, to which it is soldered, the tubing being brass, nine-sixteenths of an inch diameter, 18 gauge, 34½ inches long, and curved in a half circle 10½ inches in diameter and brazed at each end to bell-shaped brass castings which form a part of the oil-feeder tubes, the feeder tubes running outwardly from these castings 3½ inches to the burner tubes, being curved in a U-shaped form 1¾ inches deep to control the flow of oil from the reservoir to the burner tubes, there being intervening castings which are threaded and soldered to feeder tubes and soldered to burner tubes. The frame of fixture, before being soldered together as described, is provided with adjustable arms of cast brass 1¾ inches long, designed to serve as sockets for the shell-holder, of which mention will be made later. The arms are drilled and tapped to receive ornamental set screw (Fig. No. 5), which allows of adjustment of arms on frame. The feeder tubes run inwardly from the bell-shaped castings before mentioned 4 inches to the oil-distributing chamber, in which they are soldered. This oil-distributing chamber is of cast brass 3 inches diameter, turned down to a point on its under side and soldered to shell for oil reservoir on its upper side. This shell is of spun and rolled brass 9 inches diameter, 3⅞ inches deep, No. 21 gauge, the rolled portion being of ornamental character 2½ inches deep and soldered to spun portion. The oil reservoir (Fig. No. 12) is of spun brass 8¼ inches diameter, 3⅝ inches deep, No. 21 gauge, and has the funnel and oil feeder described in bracket lamp soldered in the center of bottom part. The cover or top of reservoir is also of spun brass 9½ inches diameter, provided with a flange to fit the rolled portion of shell before mentioned. The cover is provided with a bail or handle 5½ inches wide, 2¾ inches high, made of quarter-inch brass wire and loosely fitted to ears or sockets of cast brass, which are soldered to cover.

The shade-holder (Fig. No. 3) is of spun brass, 10½ inches diameter, and provided with two upturned flanges between which the shade rests; is also provided with cast-brass oblong threaded stems, which fit in the arms adjustably fitted to the frame, as before described, the threaded stem being secured in place by cap screws (Fig. No. 4). The burner tubes and all parts pertaining thereto are the same, and are numbered the same, as described in specifications of bracket. Entire weight of fixture, 13¾ pounds. Shades for chandelier, porcelain, 10-inch cone; chimneys for chandelier and bracket, No. 2 Parker, lead. Wicks for chandelier and bracket, No. 2 Parker, 2½ inches diameter, 6½ inches long.

Army Bracket Lamp, pattern of 1891.



War 52 2

Separate parts Army Bracket Lamp, pattern of 1891.

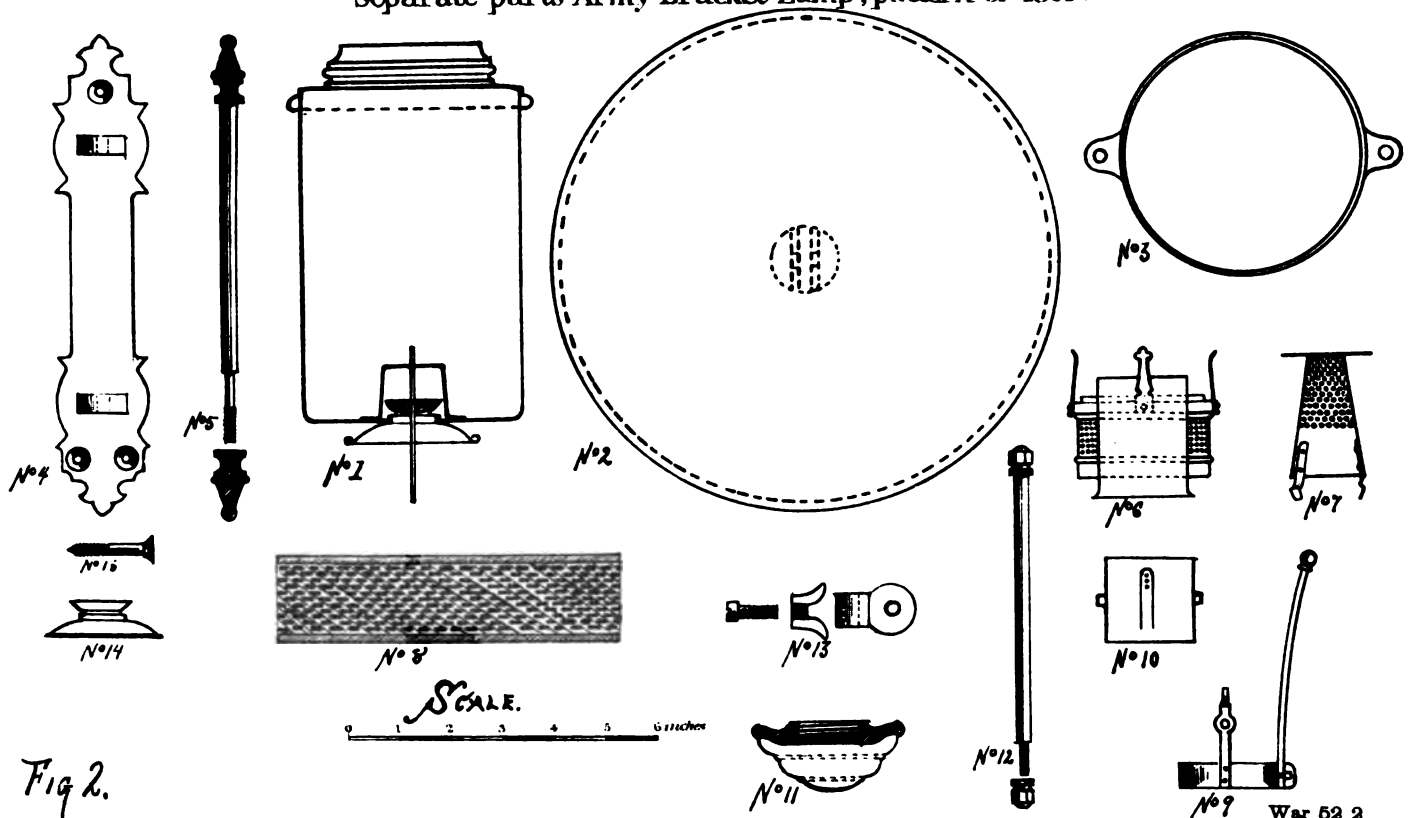
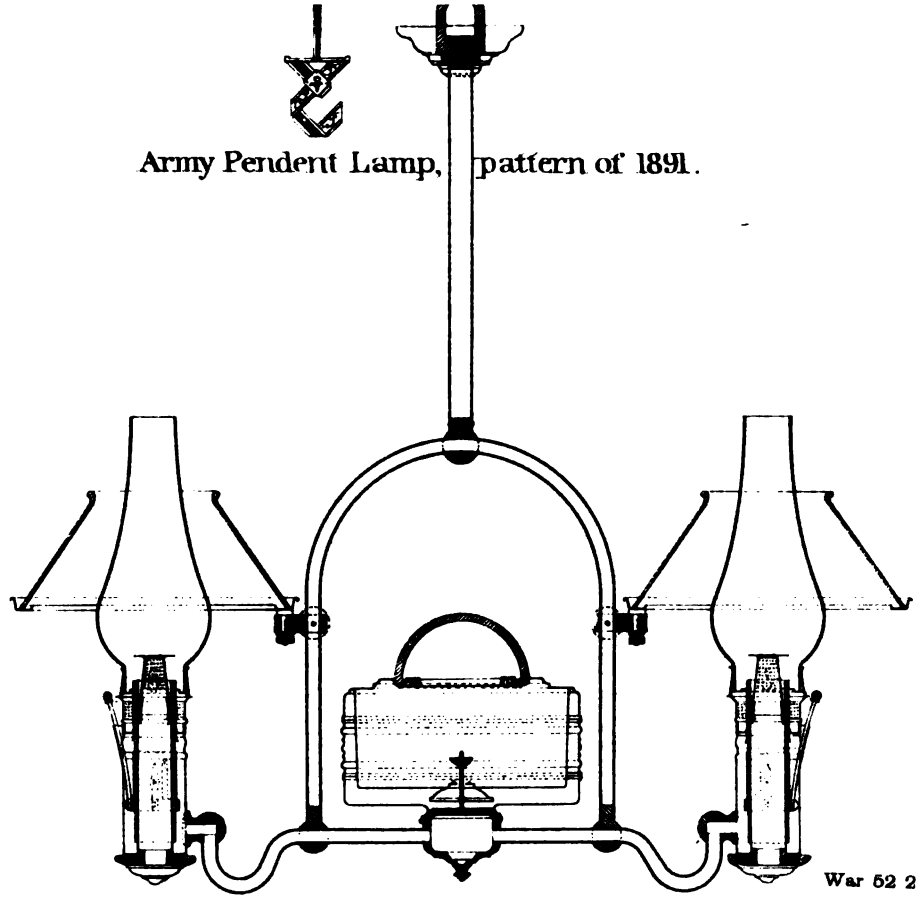
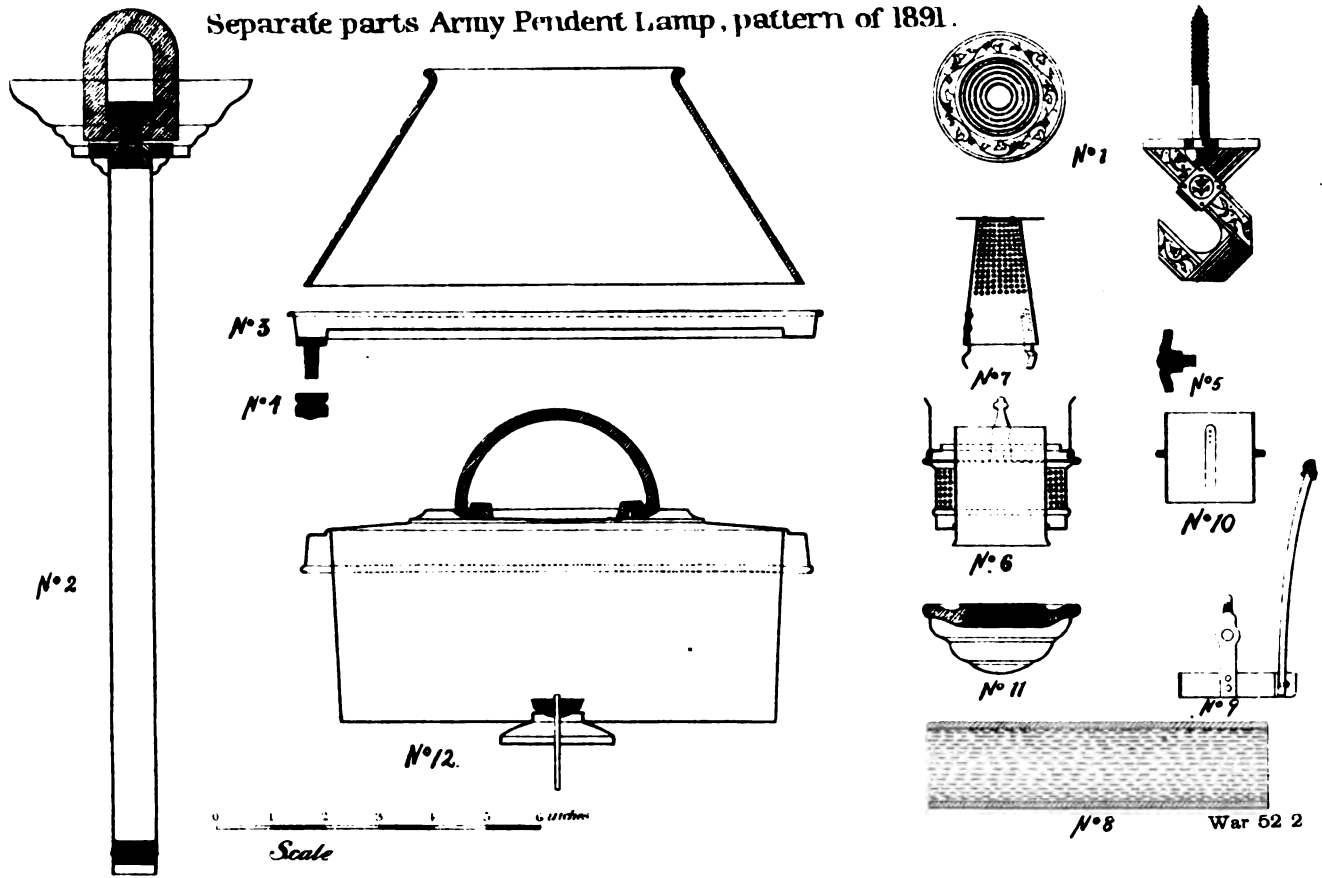


Fig 2.



Army Pendent Lamp, pattern of 1891.

Separate parts Army Pendent Lamp, pattern of 1891.



War 52 2

VETERINARY SUPPLIES.

During the fiscal year veterinary supplies were purchased as follows:

New York depot	$6,812.20
Washington depot	6.20
Total	6,818.40

Estimates for annual supplies and miscellaneous requisitions have been received and acted upon during the fiscal year as follows:

From Department of the East	$1,035
From Department of the Missouri	505
From Department of Dakota	310
From Department of Texas	248
From Department of the Columbia	156
From Department of Arizona	266
From Department of California	182
From Department of the Platte	266
Total	2,968

CONTRACTS.

During the fiscal year ended June 30, 1892, 1,355 contracts were received, examined, and filed in this office. Seven hundred and sixteen were for 71,272 cords of wood, 129,639,646 pounds of coal, 22,860 bushels of charcoal, 11,178,161 pounds of corn, 26,475,704 pounds of oats, 4,137,000 pounds of barley, 3,866,728 pounds of bran, 68,206,930 pounds of hay, 6,334,700 pounds of straw; 1 for indefinite quantities of forage; 65 for transportation; 23 for water and water supply; 14 for printing; 89 for leases; 16 for services; 12 for shoeing public animals; 4 for meals, lodgings, and stablings; 73 for buildings; 109 for clothing, camp and garrison equipage; 1 for packing boxes; 1 for natural gas; 2 for manning pack trains; 2 for lumber for miscellaneous purposes; 3 for telephones; 12 for sewerage and drainage; 4 for wells; 2 for gas; 25 for heating apparatus; 6 for building material; 25 for plumbing, etc.; 1 for headstones; 27 for repairs, etc., to buildings; 1 for casks, tierces, and barrels; 23 for horses; 1 for cisterns; 2 for gas machines; 4 for table ware; 4 for lockers; 1 for gas fixtures; 1 for painting; 5 for wharves and repairs to same; 1 for petroleum; 1 for rostrums; 10 for walks and sidewalks; 16 for removing soldiers' remains; 9 for roadways and drives; 1 for construction of a screw propeller; 3 for mineral oil; 2 for blue prints; 1 for lamp chimneys; 1 for lamps; 1 for mules; 1 for cooking apparatus; 2 for harness supplies; 1 for typewriting machines; 5 for grading, etc.; 1 for adobes; 1 for construction of rifle range; 3 for army ranges, etc.; 3 for carts and wagon parts; 2 for flagstaffs; 1 for horse and mule shoes; 1 for inclosure wall; 2 for hauling stone, earth, and gravel; 2 for navigating steamers; 1 for iron gateways; 1 for bridges; 1 for chairs; 2 for oyster shells; 1 for wagons; 1 for crushed granite; 1 for rubber hose; 1 for iron and jail work on guardhouse.

Stoves and ranges, and extra parts therefor, were purchased at general depots during the fiscal year to extent of $55,913.86, as follows:

Kind.	No.	Total cost.
Cooking stoves	22	$763.20
Heating stoves	164	2,495.63
Laundry stoves	14	97.25
Ranges	322	23,347.67
Furnaces and heaters	27	1,653.00
Steam heating apparatus	1	1,260.00
Ventilating geate	1	75.00
Cost of repairs of stoves, etc	.....	26,221.91
Total	.....	55,913.86

The range heretofore provided for troops and companies, and having six 9-inch holes and one oven, having proved to be inadequate, a supply of ranges of larger capacity, having ten 9-inch holes and with two ovens, have been procured with a view to having them tried and reported upon.

Horse and mule shoes, horseshoe nails, and shoeing tools were purchased during the fiscal year as follows:

Articles.	Pounds.	Total cost.
Horseshoes	133,300	$6,123.07
Muleshoes	91,200	4,528.72
Horseshoe nails	36,900	4,372.26
Toe calks	17,850	748.90
Shoeing tools	.....	161.75
Total	.....	15,934.70

The following-described articles of tin and sheet-iron ware were, under authority of the Secretary of War, manufactured at the Fort Leavenworth Military Prison during fiscal year ending June 30, 1892:

Furniture for stoves and ranges.

Articles.	No.	Material.	Civilian labor.	Prison labor.	Total cost.
Boilers:					
Wash (army range)	802	$785.83	$164.54	$100.25	$1,050.62
Coffee (army range)	126	40.99	26.42	15.75	83.16
Round	395	341.41	121.44	74.05	536.90
Square	884	1,165.10	320.53	195.20	1,680.83
Bakepans:					
Army range	313	80.64	28.61	17.50	126.75
Sheet-iron	721	151.28	67.28	41.00	259.56
Teakettles (army range)	468	201.08	64.12	39.00	304.20
Steamers:					
Army range	72	13.68	4.92	3.00	21.60
Boiler	27	9.34	4.59	2.81	16.74
Pots:					
Coffee	290	82.25	46.21	28.14	156.60
Tea	20	4.14	2.59	1.67	8.40
Pot covers (army range)	96	3.14	1.62	1.00	5.76
Dish pans	45	34.21	9.22	5.62	49.05
Dippers	75	6.75	5.13	3.12	15.00
Stovepipe (joints)	12,741	1,421.65	146.20	88.48	1,656.33
Stovepipe (elbows)	2,766	159.87	141.94	86.43	388.24
Stovepipe (T joints)	46	10.69	.79	.48	11.96
Flue stoppers, assorted	223	5.93	7.58	4.62	18.13
Collars (stovepipe)	790	8.00	14.48	9.12	31.60
Tin pans	18	2.78	.39	.25	3.42
Colander	1	.24	.13	.08	.45
Steaming box	1	36.63	8.21	5.00	49.84
Flue thimbles	20	.61	.26	.13	1.00
Camp stoves, with furniture	2	8.41	9.60	6.75	24.76
Muffin rings	350	2.97	3.20	2.25	8.42
Total	.....	.....	.....	.....	6,509.32

HARNESS.

Under authority of the Secretary of War, harness was manufactured at Fort Leavenworth Military Prison for the Quartermaster's Department during fiscal year ending June 30, 1892, as follows, viz:

Articles.	No.	Material.	Civilian labor.	Prison labor.	Total cost.
Single sets harness:					
Ambulance, wheel	243	$3,033.71	$429.04	$546.75	$4,009.50
Ambulance, lead	237	2,590.56	371.94	474.00	3,436.50
Light ambulance, wheel	10	89.80	15.70	20.00	125.50
Wagon, wheel	250	3,480.87	134.76	171.87	3,787.50
Wagon, lead	436	4,068.22	170.98	218.00	4,457.20
Express, wheel	8	145.90	15.70	20.00	181.60
Sets harness:					
Cart	31	387.31	27.32	34.87	449.50
Buckboard	1	15.62	1.96	2.50	20.08
Extra parts for same	.....	647.80	48.30	61.65	757.75
Total	.....	.....	.....	.....	17,255.13

The following are the payments made by quartermasters for purchases for the Army at general depots for use thereat and for shipment elsewhere during the fiscal year ending June 30, 1892, from appropriations pertaining to that period:

Depots.	Regular supplies.	Incidental expenses.	Barracks and quarters.	Army transportation.	Total.
Jeffersonville	$45,337.02	$13,950.61	$140.30	$15,292.14	$74,720.07
St. Louis	10,656.40	7,859.25	4,264.04	21,630.01	44,409.70
Philadelphia	10,635.38	275.70	224.01	8,782.51	19,917.60
New York	83,877.72	13,261.06	526.75	16,979.60	114,645.13
San Francisco	12,883.24	1,126.42	1,251.73	8,895.93	24,157.32
Total	163,389.76	36,473.04	6,406.83	71,580.19	277,849.82

Purchases have been made in the departments and at general depots, for post bakeries, schools, and gardens, as follows:

For bakeries	$242.87
For schools	5,305.58
For gardens	111.06
Total	5,659.51

Total cost of all tableware and kitchen utensils purchased.

Philadelphia depot	$14,913.10
St. Louis depot	5.00
Total	14,918.10

MESS TABLES, BENCHES, STOOLS, COMPANY FIELD DESKS, AND ROPE MATS.

There were manufactured during the fiscal year ended June 30, 1892, at Fort Leavenworth military prison, viz:

Articles.	No.	Material.	Prison labor.	Total.
Mess tables	218	$938.49	$208.19	$1,146.68
Mess stools	4,059	1,151.13	107.16	1,258.29
Mess benches	23	26.36	15.50	41.86
Company field desks	22	94.60	60.50	155.10
Regimental field desks	1	8.85	3.00	11.85
Rope mats	23	2.99	17.25	20.24
Total				2,634.02

TYPEWRITING MACHINES.

The general use of these machines throughout the country in all classes of business, simplifying and hastening correspondence, rendered their introduction into the Army a necessity, and accordingly a supply of 150 of these machines has been procured at a cost of $70 each, and issued to posts for use of quartermasters and adjutants, on the following basis: For a post of three companies or less, one machine; for a post of four companies or more, two machines. So far as known, the machines purchased have given general satisfaction.

CLAIMS BRANCH.

The duties of the branch are as follows;

First. The investigation and adjudication of claims for quartermaster stores taken or furnished for the use of the Army during the war of the rebellion, in States not in insurrection, as provided for in act of July 4, 1864, section 300 A, Revised Statutes of the United States.

Second. To furnish the Department of Justice and the Court of Claims under the provisions of the act of March 3, 1883, commonly known as the "Bowman act," with the evidence in these cases, and to transmit the papers when they are on file. The time of the clerical force of the branch is largely occupied in replying to these calls, 331 of which were received and disposed of during the fiscal year.

Besides this, many inquiries from members of Congress, claimants, and others, are received, to which appropriate replies are made.

Third. The examination of certain miscellaneous claims, consisting of (1) cases based on certified accounts, and known as "regular purchase vouchers," and (2) cases known as "soldiers' claims," being for private horses turned into regiments and appropriated to the public service, or for horses lost in the service by officers and soldiers.

Two clerks are employed in this branch.

Most of these miscellaneous claims are referred to this office by the Third Auditor of the Treasury, and after receiving an administrative examination in this branch are returned with an appropriate report in each case, for settlement by the accounting officers of the Treasury under any law applicable.

The third section of the act of March 3, 1879, provides that all claims not presented and filed under the act of July 4, 1864, prior to January

1, 1880, shall be forever barred. Consequently, no new claims under the act of July 4, 1864, are being received.

During the war, however, many claims were presented to certain military boards and commissions appointed by department and district commanders, and received a greater or less investigation, but no final and complete action.

The Quartermaster-General in 1880 held that the presentation of claims before such boards and commissions was such a presentation and filing as to save them from being barred under the third section of the act of March 3, 1879. Two of this class of claims are embraced in the number receiving final action during the past fiscal year.

Many claims were filed prior to January 1, 1880, and returned for informality or additional evidence. These claims can still be refiled or revived by additional evidence in case the original papers have been lost. Four claims of this character received final action during the past fiscal year.

STATEMENT OF WORK FOR THE YEAR.

The following statement shows the number of claims reported on hand July 1, 1891; number of claims presented to military boards and commissions and called up in the Quartermaster-General's Office during the fiscal year; number of claims adjudicated by the Quartermaster-General; the amounts approved in whole or in part; the amounts disallowed, and the number and amount of those remaining on hand July 1, 1892:

Number of claims remaining on hand July 1, 1891		39
Amount	$64,809.82	
Number of claims refiled or revived		4
Amount	535.00	
Total on hand and received during the year		43
Amount	65,344.82	

Upon the foregoing action was taken, as follows:

Approved in whole or in part		8
Upon these claims there was allowed	$3,091.53	
And disallowed	3,098.47	
Rejected		1
Amount	125.00	
Total on which action was had		9
Amount	6,315.00	
Remaining on hand July 1, 1892		34
Amount	59,209.82	

On the claims (34) reported as on hand no final action has been taken, because in most cases neither the address of the claimant nor of any attorney in the case, is known. But few of these claims are likely ever to be called up. Some, however, have been suspended at the request of claimants, to afford them an opportunity to furnish additional evidence.

Very respectfully,

JAMES GILLIS,
Major and Quartermaster, U. S. Army.

The QUARTERMASTER-GENERAL, U. S. ARMY.

8.

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., September 12, 1892.

GENERAL: I have the honor to submit a report of the operations of the mail and record division, and records, files, and miscellaneous claims branch for the year ending June 30, 1892.

MAIL AND RECORD DIVISION.

This division was established November 15, 1890, for the purpose of bringing into one division all matters pertaining to the keeping of the records, the briefing, entering, and indexing of all communications received in the office of the Quartermaster-General, as well as the writing and mailing of all letters and indorsements to be sent out. This work was formerly divided among the various branches of the office. To accomplish the consolidation of the records, a modification of the card system was adopted.

During the past year the current business of the Quartermaster-General's office has been transacted with more promptness and a better supervision had over work passing through than would have been possible without the present system.

Under the present system all uncertainty as to where to look for a record has been removed, and any desired record has been found readily, with the advantage of being full, complete, and in consolidated form when obtained.

That the present system is economical in the matter of clerical force is evidenced by the fact that the business of the office has been kept well up to date at all times during the past year, though its volume has been greater than before, whereas under the old methods work accumulated during certain busy seasons to be disposed of at times of more leisure. Economy of money has also resulted, for there have been fewer expensive record books to purchase, and the money expended for blanks and printing has been less than in years before the present system was adopted.

The following is the number of communications received and the number of letters and indorsements sent out during the year ending June 30, 1892:

Original cases	22,593
Received backs	19,238
Letters and indorsements mailed	45,538

RECORDS, FILES, AND MISCELLANEOUS CLAIMS BRANCH.

This branch has the custody of the records and files of the office from the date of its organization, June 15, 1818, and investigates and takes action upon miscellaneous claims for payment for services rendered as mechanics, teamsters, and laborers; for extra-duty pay to enlisted men employed in the Quartermaster's Department; for reimbursements to officers, soldiers, and civilian employés for expenses incurred while traveling on duty or under orders; for the expenses of burial of officers and soldiers; for awards for pursuing, apprehending, and delivering deserters; for recovery of lost and stolen public animals, and such other claims and accounts as do not specifically pertain to other branches of the office.

The branch also has charge of the supply of newspapers and periodicals to military post libraries for the use and benefit of the enlisted men of the Army, and of the printing and binding for the Quartermaster's Department.

MISCELLANEOUS CLAIMS AND ACCOUNTS.

There were on hand at the beginning of the fiscal year, awaiting action, 263 miscellaneous claims and accounts, amounting to $62,616.68; there were received during the year 836 claims and accounts, amounting to $118,954.02, making the total number on hand and received 1,099, amounting, as presented, to $181,570.70.

Action was taken during the fiscal year upon 1,040 miscellaneous claims and accounts, amounting to $168,713.37, and there remained on hand at the close of the fiscal year, awaiting action, 59 claims and accounts amounting to $12,857.33.

The following statement shows in detail the number and amount of claims and accounts on hand and received, and the disposition of those finally acted upon during the fiscal year:

	Number.	Amount.
On hand July 1, 1891, awaiting action:		
Claims, 248, amounting to $57,778.49	.....	.....
Accounts, 15, amounting to $4,838.19	263	$62,616.68
There were received during the fiscal year:		
Claims	548	92,555.18
Accounts	288	26,398.84
Total on hand and received	1,099	181,570.70
Final action was taken during the fiscal year as follows:		
Claims approved	9	295.51
Claims referred to other departments	19	7,796.98
Claims referred to Third Auditor for action of accounting officers	342	30,793.08
Reduction on claims approved and referred	.....	15,486.98
Claims rejected	379	86,058.22
Accounts approved	215	14,619.52
Reduction on accounts approved	.....	388.72
Accounts referred to other departments	64	11,223.39
Accounts rejected	12	2,050.97
Total upon which final action has been taken	1,040	168,713.37
Remaining on hand July 1, 1892:		
Claims	47	9,902.90
Accounts	12	2,954.43
Total	59	12,857.33

In addition to those above enumerated, final ation was taken during the fiscal year upon 271 miscellaneous claims, amounting, as presented, to $41,529.51, which had been filed in this office prior to July 1, 1888, and were awaiting additional evidence.

NEWSPAPERS AND PERIODICALS.

The various military post libraries of the Army are supplied with newspapers and periodicals for use of the enlisted men of the Army, upon the basis of a liberal allotment from the appropriations of the Quartermaster's Department. Selections of reading matter are made by the authorities of each military post, from a list revised in this office each year, of the leading newspapers and magazines for which special subscription prices are obtained.

During the fiscal year newspapers and periodicals were supplied to 117 military posts, garrisoned by 398 companies or detachments of troops, at an aggregate expenditure of $3,737.55.

PRINTING AND BINDING.

During the fiscal year 363 requisitions for printing and binding were issued on the Public Printer. Of these, 215 requisitions were filled in the office of the Public Printer, at a cost of $9,782.51. The remaining 148 requisitions were filled in the War Department branch of the Public Printing Office, and called for the printing of over 200,000 blank forms, specifications, circulars, etc., the cost of which is unknown, no bills or estimates of cost having been rendered.

Very respectfully,

WM. S. PATTEN,
Captain and Assistant Quartermaster, U. S. Army.

The QUARTERMASTER-GENERAL.

9.

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., September 20, 1892.

GENERAL: I have the honor to submit the following report of the work done by the barracks and quarters branch of this office during the fiscal year ending June 30, 1892:

Under the head of barracks and quarters, Congress provided by the act making appropriations for the support of the Army, approved February 24, 1891		$725,000.00
Add amount credited to the appropriation during the year		3,939.86
Total to be accounted for		728,939.86
Remitted to officers for rent	$108,293.06	
Remitted to officers for repairs, constructions, labor, etc.	547,403.67	
		655,696.73
Balance in Treasury June 30, 1892		73,243.13

NEW CONSTRUCTIONS.

During the year there has been authorized from the appropriation for barracks and quarters, the construction of public buildings at different military posts—consisting of barracks, officers and noncommissioned officers' quarters, storehouses, stables, etc., at an estimated cost of $302,298.05.

For the construction and repair of hospitals there have also been authorized from the appropriation for that purpose expenditures amounting to $73,578.07, and for the construction and repair of hospital stewards' quarters, from the appropriation "for construction of quarters for hospital stewards," $11,932.48.

The army appropriation act above referred to, of February 24, 1891, provided that not less than $50,000 of the $725,000 appropriated for barracks and quarters "shall be used to begin the repair and reconstruction of Jefferson Barracks, Missouri."

In obedience to that law one double barrack and two double sets of officers' quarters are now in process of construction.

REPAIRS.

There have been authorized for repairs, alterations and improvements to public buildings, and for the purchase of building materials and tools at various posts, expenditures amounting to $294,473.56.

The different military departments to which this money has been distributed are shown in the annexed statement.

Recapitulation of the expenditures authorized for construction, repairs, etc., from the appropriation for barracks and quarters, 1891–'92.

Department.	Construction.	Repairs.	Total.
Department of the East	$92,091.86	$70,234.09	$162,325.95
Department of the Missouri	16,734.43	39,086.35	55,820.78
Department of the Platte	24,927.31	46,092.53	71,019.84
Department of Dakota	28,227.37	29,402.82	57,630.19
Department of Texas	14,693.00	20,152.09	34,845.09
Department of California	8,877.45	18,442.80	27,320.25
Department of Arizona	24,513.96	30,651.90	55,165.86
Department of the Columbia	12,978.00	16,089.33	29,067.33
Total	223,043.38	270,151.91	493,195.29

In addition thereto expenditures were authorized for barracks and quarters construction, repairs, etc., at the independent posts, recruiting stations, depots, etc., as shown in the following table:

Posts, etc.	Construction.	Repairs.	Total.
Columbus Barracks		$4,444.39	$4,444.39
Davids Island	$14,500.00	9,417.66	23,917.66
Jefferson Barracks	54,788.00	2,905.00	57,693.00
Willets Point	9,339.67	4,231.97	13,571.64
Jeffersonville depot		500.00	500.00
New York depot		800.00	800.00
Philadelphia depot		966.81	966.81
St. Louis Clothing depot	627.00	913.00	1,540.00
Hot Springs Army and Navy Hospital		142.82	142.82
Total	79,254.67	24,321.65	103,576.32

The following list shows the different buildings which have been authorized to be built at various posts, the expenditures therefor being included in the foregoing statements, under the head of construction:

Post.	Designation.	Material.	Amount authorized.
Department of the East:			
Fort Adams	Two instrument houses and one plotting house (on target range).	Frame	$375.00
Fort Hamilton	Double set officers' quarters	do	9,287.00
Jackson Barracks	Bath house and water-closet building	do	2,616.00
	Subsistence storehouse	do	2,000.00
Fort McPherson	Magazine	Brick	500.00
	Coal shed	Frame	3,500.00
Fort Monroe	Three double sets officers' quarters	do	26,749.00
	Two sets noncommissioned staff officers' quarters.	Brick and wood.	6,634.00
	Converting coal house into quartermaster's storehouse.	Brick	4,704.00
	Coal shed	Frame	3,114.00
Mount Vernon Barracks	Barrack, mess room, and kitchen for an Indian company.	do	1,520.00
	Subsistence storehouse	do	1,679.58
	Water-closet building	do	427.77
	One set officers' quarters	do	5,400.00

Post.	Designation.	Material.	Amount authorized.
Department of the East—Continued.			
Fort Myer	Addition to mess hall	Frame	$2,888.00
	Extension and alteration of same	do	1,440.00
	Addition to pump house	Brick	153.80
	Stable guard house	do	1,444.00
	Reconstruction of quartermaster's stables, and converting of wagon shed into workshops.	Frame	4,225.00
Fort Thomas	One set noncommissioned staff officers' quarters.	Brick	1,891.00
Fort Niagara	Stable	do	2,790.00
Fort Preble	Stable and wagon shed	Frame	1,556.68
Fort Schuyler	Mess hall	do	4,331.00
Fort Wadsworth	Coal shed	do	2,465.00
	Wagon shed	do	165.00
	Shed for tools, etc	do	200.00
Washington Barracks	Coal shed	do	491.03
	Addition to wagon shed	do	65.00
	Total		92,091.88
Department of the Missouri:			
Fort Leavenworth	Assembly hall	Stone	5,000.00
Fort Mackinac	Wagon shed	Frame	117.91
Camp Oklahoma	Post quartermasters sergeants' quarters	do	90.00
Fort Sill	Additions to officers' quarters	Stone	3,009.00
	Telegraph office, storeroom, and signal sergeant quarters.	do	1,474.00
Fort Supply	Guardhouse	Brick	5,721.00
	One set noncommissioned staff officers' quarters.	Frame	491.35
Fort Wayne	Oil house	Iron	106.17
	Wagon shed	Frame	725.00
	Total		16,734.43
Department of the Platte:			
Fort McKinney	Additions to storehouse and bakehouse	Brick	4,051.00
Fort Niobrara	Corral with sheds	Frame	6,360.00
	Troop blacksmith shops	do	910.00
	Nine privies	Brick	2,668.00
	Carpenter and wheelwright shops	Frame	172.93
Fort Omaha	Wagon shed	do	387.00
Fort Washakie	Addition to barrack	do	1,560.00
Fort Logan	Three double sets noncommissioned staff officers' quarters.	Brick and frame.	8,129.00
	Gun shed	Brick and iron.	689.38
	Total		24,927.31
Department of Dakota:			
Fort Custer	Field officers' quarters	Brick	4,892.43
	Building for ten married Indian soldiers	Frame	1,588.65
Fort Keogh	Addition to cavalry barracks	do	720.76
	Addition to infantry barracks	do	598.88
Fort Meade	One double set officers' quarters	do	6,215.30
	Coal shed	do	698.33
	One cavalry stable	do	1,250.90
	One cavalry stable	do	1,533.00
	Buildings for married Indian soldiers	do	274.80
Fort Missoula	Four additions to barracks	do	1,487.07
Camp Poplar River	Five huts for married Indian soldiers	Logs	93.70
Fort Snelling	Oil house	Stone	503.90
	Root house	do	600.00
Fort Sully	Blacksmith shop	Frame	437.56
	Oil cellar	do	57.00
Fort Yates	Additions to two infantry barrack buildings.	do	3,999.90
	Three barracks for Indians	Logs	3,203.97
Fort Yellowstone	Root house	Frame	75.90
	Total		28,227.37
Department of Texas:			
Fort Clark	Company kitchen	Stone	1,359.00
Fort McIntosh	Hay shed	Frame	437.00
	Bake house	Brick	1,790.00
Fort Ringgold	Root house	do	1,100.00
	Blacksmith shop	do	1,052.00
	Wagon shed	Frame	750.00
Fort Sam Houston	Three cavalry stables	do	8,205.00
	Total		14,693.00

Post.	Designation.	Material.	Amount authorized.
Department of California:			
Alcatras Island	Addition to prison	Frame	$369.00
Angel Island	Storehouse	do	243.00
	Mess room addition to Barracks No. 3	do	638.00
Benicia Barracks	Mess room addition to Barracks No. 9	do	2,280.45
Presidio of San Francisco	Cavalry stable	do	4,483.00
	Shops and guard room for stable	do	864.00
	Total		8,877.45
Department of Arizona:			
Fort Apache	Commanding officers' quarters	Stone	5,500.00
	Two sets line officers' quarters	do	5,341.84
Fort Grant	Enlargement of squad rooms of four barrack buildings.	Frame	1,980.00
	Cavalry stable	do	2,020.74
Fort Huachuca	Two cottages for officers' quarters	Adobe	5,000.00
Fort Marcy	Bakehouse	Brick	2,012.00
San Carlos	Sheds for stables, saddle rooms, etc	Adobe	1,674.29
	Shelter for draft animals	do	774.64
	Completion of officers' quarters	do	101.20
San Diego Barracks	Outhouse for guardhouse	Frame	109.25
	Total		24,513.96
Department of the Columbia:			
Boise Barracks	Cavalry stable	Frame	2,865.00
Fort Spokane	Guardhouse	Brick	5,000.00
	Root house	Frame	313.00
Vancouver Barracks	Building for chapel, lecture room, etc	do	4,800.00
	Total		12,978.00
Recruiting stations, depots, etc.:			
Davids Island	One double set officers' quarters	Brick	14,500.00
Jefferson Barracks	One double barrack	do	23,000.00
	Two double sets officers' quarters	do	28,000.00
	One double set noncommissioned officers' quarters.	Brick and frame.	3,788.00
Willets Point	Engine house	Brick	1,692.67
	Guardhouse	do	7,647.00
St. Louis Depot	Wagon shed	Frame	627.00
	Total		79,254.67

Authorizations have also been made from the appropriations for army transportation and regular supplies, for construction of buildings, etc., pertaining to these appropriations, as follows:

From the appropriation for army transportation.

Post.	Designation.	Material.	Amount authorized.
Fort Riley	Platform for loading and unloading cars	Wood	$212.50
Fort Sheridan	Platform for loading and unloading horses	do	567.00
Fort Bliss (new post)	Pump house	Brick	5,100.00
Benicia Barracks	Bathroom addition to barracks	Frame	372.94
	Total		$6,252.44

From the appropriation for regular supplies.

Post.	Designation.	Material.	Amount authorized.
Jackson Barracks	Wood saw shed	Frame	$45.87
Fort Monroe	Forage storehouse	Brick	2,280.00
Fort Logan	Storehouse for grain	do	2,251.00
Boise Barracks	Hay shed	Frame	200.00
	Total		4,776.87

MILITARY POSTS.

In the act making appropriations for sundry civil expenses of the Government for the fiscal year ending June 30, 1892, Congress appropriated the sum of $745,000 "for the construction of buildings at, and the enlargement of, such military posts as in the judgment of the Secretary of War may be necessary."

The following amounts from the military posts appropriation for 1890–'91 also became available for expenditure within the last fiscal year:

Balance July 1, 1891	$49,728.34
Amount authorized for construction of officers' quarters at Fort Warren (revoked)	26,000.00
Saving on $36,000 authorized for construction at Fort McPherson	10,925.00
Total	86,653.34
Add amount of appropriation for 1891–'92	745,000.00
Total to be accounted for	831,653.34

The above sum has been apportioned as follows:

Post.	Designation.		Allowance.
Fort Sheridan	For four sets captains' quarters, one building for officers' mess, and twelve sets bachelor officers' quarters, two double sets noncommissioned staff officers' quarters, three cavalry stables, building for quartermaster's stable guard, two buildings for stable sergeants and saddlers, water-closet building for stables, blacksmith shop, wagon shed, ordnance storehouse, magazine, gun shed, fire station, shelter for sawing machine, extra work on new buildings, services of superintendent, and miscellaneous expenses.		$179,375.91
Fort Thomas	For two double and two single sets officers' quarters, double barrack building, guardhouse, wagon shed, quartermaster's storehouse, enlargement of subsistence storehouse, alterations in two barrack buildings, fitting old guardhouse for band quarters, extra masonry for officers' quarters, and miscellaneous expenses.		86,334.58
Madison Barracks	For three double sets officers' quarters, commanding officer's quarters, barrack building for two companies, mess hall, and miscellaneous expenses.		80,300.00
Fort Wayne	For barracks and mess hall for two companies, and two double sets officers' quarters.		78,000.00
Fort Leavenworth	For bachelor officers' quarters and common mess building		56,474.00
Fort Logan	For two double sets officers' quarters, two barracks, wagon shed, shop building, magazine, and miscellaneous expenses.		53,402.05
Willets Point	For two barrack buildings		43,950.00
Fort McPherson	For mess hall, guardhouse, magazine, and miscellaneous expenses.		37,994.50
Columbus Barracks	For two double sets officers' quarters and advertising		21,545.29
Fort Riley	For quartermaster's and subsistence storehouse		20,910.00
Fort Robinson	For quartermaster's storehouse, subsistence storehouse, and advertising.		10,068.00
Fort Sam Houston	For guardhouse		9,000.00
Fort Niobrara	Magazine and storehouse, gun shed, and miscellaneous expenses.		1,657.21
Fort Myer	For building for stable guard and miscellaneous expenses		1,464.50
Fort Yellowstone	For additional work on new buildings		354.76
Fort Warren	For advertising		236.38
Fort Brady	For administration and storehouse building, guardhouse, one double set noncommissioned staff officers' quarters, fuel building, stable, magazine, and hospital	$42,948.68	
	Less amount charged to appropriation military post, Fort Brady	6,368.00	
			36,580.68
Fort Bliss	For one double barrack, with outhouse, mess hall, guardhouse, four sets captains' quarters, six sets lieutenants' quarters, three double sets noncommissioned staff officers' quarters, hospital, subsistence storehouse, and quartermaster's stables	$167,704.00	
	Less amount charged to appropriation military post, Fort Bliss	144,610.08	
			23,093.92
	Balance June 30, 1892		90,530.96
	Total accounted for		831,653.34

The character and cost of the buildings authorized during the year at the different military posts and chargeable to the $831,653.34 referred to in the preceding table, are stated below.

The expense of plumbing, heating, and gas-piping in the buildings, unless otherwise shown, is to be taken from other appropriations of the Quartermaster's Department.

FORT SHERIDAN, ILL.

Water-closet building for stables, No. 72 (brick)	$3,039.00
Four sets of captains' quarters, Nos. 73 to 76 (brick)	41,468.80
Three cavalry stables. Nos. 62, 63, 65 (brick)	36,625.50
Officers' mess and twelve sets bachelor officers' quarters, No. 31 (brick)	54,616.70
Ordnance storehouse, No. 59 (brick)	3,371.85
Magazine, No. 57 (brick)	3,877.10
Wagon shed, No. 40 (brick)	1,916.80
Two buildings for stable sergeants and saddler, Nos. 44 and 78 (brick)	5,814.00
Guard building for quartermaster's stables, No. 37 (brick)	2,447.40
Blacksmith shop, No. 77 (brick)	3,742.75
	156,919.90
Plumbing in water-closet building, No. 72	332.00
Plumbing in three cavalry stables, Nos. 62, 63, 65	2,120.00
Plumbing in officers' mess and bachelor officers' quarters, No. 31	8,342.00
Plumbing in blacksmith shop, No. 77	79.00
Plumbing in four sets captains' quarters, No. 73, 74, 75, 76	2,548.00
Steam heating in four sets captains' quarters, Nos. 73 to 76	4,680.00
Steam heating in officers' mess, No. 31	7,385.00
Fire-station building, No. 79 (brick)	2,197.00
Two double sets noncommissioned staff officers' quarters, Nos. 90, 91 (brick)	7,266.00
Gun shed, No. 89 (brick)	5,385.00
Sawmill shelter, No. 58 (brick)	447.00

FORT THOMAS, KY.

Two double sets officers' quarters, Nos. 39, 40, 41, 42 (brick)	$13,092.00
Plumbing and gas-piping in same	1,954.00
Heating in same	2,923.00
	17,969.00
Two single sets officers' quarters, Nos. 38, 43 (brick)	23,458.20
Plumbing and gas-piping in same	1,138.00
Heating in same	1,574.00
	26,170.20
Double barrack, No. 37 (brick)	24,188.00
Plumbing in same	2,845.00
Extension to steam heating to same	8,368.00
	35,401.00
Guardhouse, No. 46 (brick)	6,677.00
Plumbing and gas-piping in same	797.00
Heating and ventilation in same, with steam connections	4,675.00
	12,149.00
Wagon shed, No. 45 (brick)	3,477.00
Quartermaster's storehouse, No. 47 (brick)	6,977.00
Enlargement of subsistence storehouse, No. 14 (brick)	2,071.00
Enlargement of barracks, Nos. 11 and 12 (brick)	1,145.00
Plumbing in same	1,995.00
Heating apparatus in same	140.00
	3,280.00

Alteration of old guardhouse into band quarters, No. 15 (brick)	$2,627.00
Plumbing in same	213.00
Gas-piping in same	27.00
Steam heating in same	356.00
	3,223.00

MADISON BARRACKS, NEW YORK.

For the enlargement of this post the Secretary of War has authorized the construction of the following buildings:

Mess hall (brick)	$30,000.00
One double barrack (brick)	20,000.00
Commanding officer's quarters (brick)	8,000.00
Three double sets officers' quarters (brick)	22,000.00
	80,000.00
The mess hall only has been contracted for at a cost of	38,368.00
Plumbing in same	1,445.00
	39,813.00

FORT WAYNE, MICH.

The following buildings have been authorized at this post, but no steps have yet been taken for their construction:

Mess hall for two companies and barracks for two companies	$50,000.00

FORT LEAVENWORTH, KANS.

Mess hall, No. 61 (brick)	$27,500.00
Plumbing in same	1,675.00
Cooking apparatus in same	4,350.00
	33,525.00
Bachelor officers' quarters, sixteen sets, No. 43 (brick)	28,974.00
Plumbing in same	3,400.00
Gas-piping in same	200.00
	32,574.00

FORT LOGAN, COLO.

Two double sets cavalry officers' quarters, Nos. 30, 31, 32, 33 (brick)	$21,050.00
Plumbing	1,785.00
Heating	2,400.00
	25,235.00
Two cavalry barracks and outhouses, Nos. 34, 35, 40, 41 (brick)	27,950.00
Plumbing	1,500.00
Heating	3,200.00
	32,650.00
Wagon shed, No. 69 (frame, with iron siding)	1,285.00
Shop, No. 71 (frame, with iron siding)	2,050.00
Magazine, No. 78 (brick)	471.00
	3,806.00

WILLETS POINT, N. Y.

Two barracks, Nos. 107, 108 (brick)	$43,950.00
Plumbing	3,890.00
Heating	5,168.00
	53,008.00

FORT ROBINSON, NEBR.

Subsistence storehouse No. 80 (frame)	$5,430.00
Quartermaster's storehouse, No. 81 (frame)	4,600.00
	10,030.00

FORT M'PHERSON, GA.

Mess hall, No. 41 (brick)	$24,100.00
Plumbing	1,057.00
Gas-piping	180.00
Steam-heating	4,090.00
Cooking apparatus	3,585.00
	33,012.00
Guardhouse, No. 32 (brick)	13,100.00
Plumbing	1,182.00
Gas-piping	100.00
Heating	480.00
	14,862.00
Magazine, No. 51 (brick)	500.00

COLUMBUS BARRACKS, OHIO.

Two double sets officers' quarters (brick)	$21,532.00
Plumbing	1,942.00
Heating	2,160.00
Gas-piping	134.00
	25,768.00

FORT RILEY, KANS.

Quartermaster's storehouse No. 70 (stone)	$20,910.00
Plumbing	200.00
	21,110.00

FORT SAM HOUSTON, TEX.

Guardhouse	9,000.00

FORT NIOBRARA, NEBR.

Ordnance storehouse and magazine Nos. 67, 68 (frame)	1.486.90

FORT MYER, VA.

Stable guardhouse (brick)	1,464.50

NEW POST OF FORT BRADY, MICH.

The following additional buildings have been contracted for at this post:

Administration building and storehouse, No. 14 (brick)	$16,707.53
Guardhouse, No. 11 (brick)	5,722.80
Noncommissioned staff officers' quarters (double), No. 19	3,820.25
Fuel building, No. 15 (brick)	2,539.20
Stable, No. 17 (brick)	3,067.00
Magazine, No. 23 (brick)	624.30
Hospital (brick)	10,467.60
	42,948.68

Of the above amount $6,368 is chargeable to the special appropriation for construction of this post, and $36,580.68 to the military posts appropriation. These figures do not include plumbing or heating.

NEW POST OF FORT BLISS, TEX.

Contracts have been entered into during the year for the construction of—

One double barrack (brick)	$23,904.00
Outbuilding for same (brick)	2,450.00
Mess hall (brick)	29,860.00
Four sets captains' quarters (brick)	29,000.00
Six sets lieutenants' quarters (brick)	37,500.00
Three double sets noncommissioned staff officers' quarters, Nos. 27, 29, 31, 33, 35, 37 (brick)	9,840.00
Guardhouse, No. 25 (brick)	6,450.00
Subsistence storehouse (brick	10,500.00
Hospital (brick)	13,250.00
Quartermaster's stable (stone)	4,950.00
	167,704.00

Of this amount $144,610.08 is chargeable to the special appropriation for the construction of Fort Bliss, and the remainder, $23,093.92, will be taken from the appropriation for "military posts." The cost of plumbing and heating in the above-mentioned buildings is not included in these figures.

RESERVATION OF THE PRESIDIO OF SAN FRANCISCO, CAL.

Of the appropriation of $38,000, provided by act of March 2, 1889, the entire balance remaining on hand June 30, 1891, of $8,662.89 has been expended in the macadamizing of Lombard street, purchase of trees, etc.

APPROPRIATION, $38,000, APPROVED MARCH 2, 1891.

The work of macadamizing Lombard street under contract has been completed.

The contract for furnishing 50,000 trees has been successfully accomplished and the work of tree-culture carried on throughout the year.

Expenditures from this appropriation have been as follows:

Macadamizing Lombard street (final payment)	$5,776.67
Building reservoir (water supply)	650.00
Purchase of trees (final payment complete)	1,375.00
Labor and services (cultivating young trees, building fences, etc.)	608.65
Wire and nails (for fencing)	44.70
Powder (for blasting purposes)	2.40
Pipe, $104.81; nails, lumber, and oil (for water supply), $48.13; labor, laying water pipe, $75	227.94
Paris green and bellows (destroying insects), $2.75; pruning shears, etc., $4.95	7.70
Total	8,693.06

APPROPRIATION, $10,000, APPROVED MARCH 3, 1891.

The fences have been kept in thorough repair and new ones built as required.

The progress made in tree-culture has been favorable throughout; 105,475 additional trees have been planted, viz:

Eucalyptus	51,290
Acacia	13,433
Cypress	19,500
Pine	19,860
Bamboo	1,242
Clanothus	100
Washingtonia	50
Total	105,475

Of the above, the eucalyptus were raised in our own nursery, 2,393 trees donated by Golden Gate Park and Mr. Greene, and the remainder purchased under contract; 7,906 trees (pine, cypress, and acacia) have been utilized in replacing losses among the former years' planting. Fifty native trees (*Washingtonia gigantea*, or Calaveras big tree) have been distributed in small groups of two and three in the space southwest from post reservoir, and inclosed by the road leading from the reservoir to McDowell avenue.

Along the bluffs on the western part of the reserve inclosed 93⅔ acres (actual survey), in which has been planted 95,777 trees, consisting of all the varieties of the eucalyptus and equal proportions of cypress, pine, and acacia. The eucalyptus occupy the ridges throughout, and are planted in groups of five, while the other varieties are planted in rows and so distributed, according to the nature of the ground, to favor their progress. Five hundred trees of extra size, 4 feet high, have been utilized to replace trees of larger growth which occupy conspicuous places and have been destroyed by accident or otherwise.

For the bamboo an acre of good ground, best adapted for the experiment, was selected in the low ground, and is located in the western part of such ground near the tules.

The nursery has been restocked with the expectation of having 30,000 eucalyptus trees ready for the next planting.

Expenditures on account of appropriation of $10,000 (approved March 3, 1891), have been as follows, viz:

Purchase of trees	$1,609.50
Plowing and harrowing	956.33
Cultivating trees (1891–'92)	1,585.00
Planting 103,423 trees, at 2½ cents each	2,585.57
Labor (cultivating young trees, building fences, digging fire-breaks, etc.)	1,270.75
Lumber (for fencing)	520.26
Wire and staples (for fencing)	207.47
Blue-gum seed (for nursery)	12.00
Repairing windmill (water supply)	2.10
Total	8,748.98
Unexpended balance	1,251.02
Total	10,000.00

FORT CROOK, NEBR.

At this post contracts have been entered into for the following work:

Gang-well system	$5,150
Water-supply system	35,653
Pump house	6,500
Sewer system	11,340
Roads	26,425

Of the above amount the cost of sinking wells and pump house, $11,650, is chargeable to the special appropriation for construction of the post and the balance to "Army transportation."

No other buildings have been erected, but work upon the plans thereof is in progress.

PLATTSBURG BARRACKS, N. Y.

No buildings have been erected at this post during the year, under the act of February 16, 1891, providing for its enlargement, but plans for such are being prepared.

Expenditures authorized for wharves, roads, walks, grading, bridges, etc., chargeable to the appropriation for Army transportation.

Post.	Roads, walks, grading, and bridges.	Wharves.	Miscellaneous.
Arlington Reservation, Virginia	$3,000.00		
Fort Adams, R. I	3,189.80	$64.00	
Governor's Island, New York Harbor	23.60	206.00	$52.60
Fort Hamilton, New York Harbor	481.80	4,112.68	
Jackson Barracks, La	134.00		
Fort McHenry, Md	60.00		
Fort McPherson, Ga	3,143.20		
Madison Barracks, N. Y	11,939.44	192.00	67.50
Fort Monroe, Va	3,350.00	3,770.88	822.00
Fort Myer, Va	6,464.00		1,759.70
Fort Niagara, N. Y	307.47		
Plattsburg Barracks, N. Y	7,397.00	150.00	
Fort Porter, N. Y	500.00		
Fort Preble, Me	18.00		13.00
Fort Thomas, Ky	10,825.43		270.00
Fort Wadsworth, N. Y		162.00	
Fort Warren, Mass	67.41	166.26	
Washington Barracks, D. C	294.00		
Fort Wood, New York Harbor	65.00	315.00	
Fort Brady, Mich	8,354.00		
Fort Leavenworth, Kans	500.50		
Fort Riley, Kans	5,514.70		404.50
Fort Sheridan, Ill	51,656.75		5,468.20
Fort Sill, Okla	563.40		18.00
Fort Crook, Nebr	26,723.25		
Fort Douglas, Utah	38.00		
Fort Logan, Colo	6,248.10		
Fort Niobrara, Nebr	110.68		
Fort Omaha, Nebr	34.00		
Fort Randall, S. Dak	28.00		
Fort Robinson, Nebr	400.00		82.50
Fort Buford, N. Dak	120.00		
Fort Meade, S. Dak	168.00		43.00
Fort Missoula, Mont	20.50		
Fort Snelling, Minn	4,460.46		
Fort Bliss, Tex	307.50		
Fort Clark, Tex	1,916.00		
Camp del Rio, Tex			200.00
Fort Sam Houston, Tex	4,954.64		500.00
San Antonio Depot and department headquarters	100.00		
Alcatraz Island, Cal	112.50		139.71
Fort Mason, Cal		125.00	
Presidio of San Francisco, Cal	670.00	2,500.00	
Fort Bowie, Ariz			13.50
Fort Grant, Ariz	213.00		
Whipple Barracks, Ariz	150.00		
Fort Wingate, N. Mex	11,170.34		
Angel Island, Cal		2,614.20	
Boise Barracks, Idaho	107.00		
Fort Canby, Wash	356.25		
Fort Spokane, Wash	275.00		
Vancouver Barracks, Wash	1,555.81		120.00
Vancouver Depot, Wash	27.00		
Fort Wallawalla, Wash	20.00		
Columbus Barracks, Ohio	6,305.00		595.00
Davids Island, New York Harbor			1,000.00
Hot Springs Army and Navy Hospital, Arkansas	5.00		
Jefferson Barracks, Mo	14,888.00		425.00
Schuylkill Arsenal, Pa	148.00		100.00
St. Louis Depot, Mo	145.00		629.50
St. Louis Powder Depot, Mo	1,537.00		
Willets Point, New York Harbor	500.00	1,322.60	90.00
Total	201,663.53	15,700.62	12,813.71

"For shelter, shooting galleries, ranges, repairs, and expenses incident thereto" Congress granted $5,000 in the act making appropriations for the support of the Army February 24, 1891, which sum was apportioned as follows:

Department or post.	Designation.	Amount.
Division of the Atlantic	Apportionment	$319.73
Department of the Missouri	do	301.78
Department of the Platte	do	263.80
Department of Dakota	do	326.80
Department of Texas	do	200.83
Department of California	do	191.80
Department of the Columbia	do	179.13
Department of Arizona	do	385.13
Fort Thomas, Ky	Construction of range	2,385.00
Fort Keogh, Mont	Flour	5.40
Fort Mackinac, Mich	Rent of range	50.00
Fort Snelling, Minn	Hire of telephones	20.00
Fort Niagara, N. Y	Hire of two horses	28.00
San Antonio, Tex	Mimeograph	18.00
Do	Nails, cartridges, etc	18.60
Fort Bliss, Tex	Butts on range	211.66
Fort Randall, S. Dak	Flour	2.97
Fort Washakie, Wyo	do	3.15
Fort Apache, Ariz	Repairs	73.72
Fort Ontario, N. Y	do	8.50
Fort Sheridan, Ill	Flour	6.00
Total		5,000.00

HOSPITALS.

For construction and repair of hospitals, including the extra-duty pay of enlisted men employed on the same, Congress provided $75,000 in the army appropriation act of February 24, 1891. This fund has been disbursed by officers of the Quartermaster's Department on estimates approved by the Surgeon-General of the Army, the apportionment being shown in the following statement:

Department and post.	Amount.
Department of the East:	
Fort Adams	$300.00
Fort Columbus	149.60
Fort Hamilton	633.33
Jackson Barracks	361.50
Fort McHenry	35.46
Fort McPherson	224.50
Fort Monroe	3,062.16
Mount Vernon Barracks	2,648.22
Fort Myer	42.90
Newport Barracks	75.85
Fort Niagara	693.48
Fort Ontario	205.20
Fort Preble	360.10
Fort Schuyler	514.35
Fort Thomas	151.35
Fort Trumbull	492.48
Fort Wadsworth	674.50
Washington Barracks	20.00
Fort Wood	94.95
Total	10,759.43
Department of the Missouri:	
Fort Leavenworth	598.50
Fort Reno	444.00
Fort Riley	1,145.59
Fort Sheridan	26,485.07
Fort Supply	720.24
Fort Wayne	169.00
Total	29,562.40

Department and post.	Amount.
Department of the Platte:	
Fort D. A. Russell	$2,195.08
Fort Du Chesne	154.25
Fort Logan	946.27
Fort McKinney	491.73
Fort Niobrara	692.00
Fort Omaha	79.42
Fort Randall	88.71
Fort Robinson	2,162.00
Fort Sidney	101.25
Fort Washakie	726.76
Total	7,637.47
Department of Dakota:	
Fort Assiniboine	921.30
Fort Buford	170.23
Fort Custer	77.00
Fort Keogh	957.22
Camp Merritt (subpost of Fort Keogh)	370.30
Fort Missoula	394.10
Fort Pembina	149.04
Camp Poplar River	42.18
Fort Snelling	204.28
Fort Yates	565.57
Fort Yellowstone	30.24
Total	3,881.46

Department and post.	Amount.
Department of Texas:	
Fort Brown	$800.00
Fort Clark	2,262.78
Fort Hancock	24.70
Fort Ringgold	382.18
Fort Sam Houston	3,882.33
Total	7,351.99
Department of California:	
Angel Island	357.50
Fort Bidwell	34.02
Fort Mason	1,374.20
Presidio of San Francisco	792.50
Total	2,558.22
Department of Arizona:	
Fort Bayard	200.00
Fort Bowie	187.26
Fort Huachuca	250.08
Fort Marcy	630.76
San Carlos	2,110.00
Fort Stanton	200.00
Whipple Barracks	262.79
Fort Wingate	1,751.15
Total	5,592.04
Department of the Columbia:	
Boise Barracks	$314.48
Fort Canby	200.00
Fort Sherman	299.73
Fort Spokane	364.70
Fort Townsend	20.80
Vancouver Barracks	2,500.00
Total	3,799.71
Independent posts, etc.:	
Columbus Barracks	1,148.75
David Island	500.00
Hot Springs Army and Navy Hospital	200.00
Jefferson Barracks	67.60
Willets Point	519.00
Total	2,435.35
Balance June 30, 1892	1,421.93
Grand total	75,000.00

Included in the foregoing are new hospital buildings at the following posts:

Mount Vernon Barracks, Indian hospital	$2,643.74
Fort Sheridan, 40-bed hospital (including plumbing and heating)	26,227.00
Fort D. A. Russell, addition to hospital	2,073.00
Fort Robinson, hospital kitchen	1,096.58
Fort Merritt (subpost of Fort Keogh), hospital	380.72
Fort Pembina, hospital barn	121.49
Fort Clark, hospital kitchen	1,670.00
Fort Sam Houston, kitchen addition to hospital	2,250.50
San Carlos, hospital additions	2,085.77

The above buildings, excepting the hospital at Fort Sheridan and the buildings at Fort Sam Houston and Fort Pembina, have been reported completed within the fiscal year.

HOSPITAL STEWARDS' QUARTERS.

In the army appropriation act of February 24, 1891, the sum of $12,000 was also provided "for construction and repairs of quarters for hospital stewards, including the extra-duty pay of enlisted men employed on the same."

This amount has been apportioned by the Secretary of War to the posts named below under the provision of law that "the cost of construction of quarters at any one post shall in no case exceed $800, except where a post is situated at a city of more than 50,000 inhabitants the cost of construction of such quarters may be not to exceed $1,200."

Post.	Amount.	Post.	Amount.
Fort Adams	$175.91	Fort Snelling	$14.98
Fort Columbus	1,297.00	Fort Sully	140.00
Governors Island	48.60	Fort Yates	104.80
Fort Hamilton	70.00	Fort Brown	44.48
Jackson Barracks	130.60	Fort Clark	63.20
Fort McHenry	93.25	Fort Ringgold	39.97
Fort McPherson	39.50	Fort Sam Houston	338.14
Madison Barracks	10.50	Alcatraz Island	1,132.14
Mount Vernon Barracks	34.05	Benicia Barracks	39.00
Fort Myer	117.30	Fort Gaston	24.47
Fort Ontario	92.35	Fort Mason	87.50
Fort Porter	1,548.75	Presidio of San Francisco	261.94
Fort Preble	104.71	Fort Apache	126.10
Fort Schuyler	367.44	Fort Grant	39.08
Fort Thomas	132.00	Fort Huachuca	17.00
Fort Trumbull	64.48	Fort Marcy	68.00
Washington Barracks	74.00	Fort Stanton	106.80
Fort Leavenworth	16.65	Fort Wingate	13.60
Fort Mackinac	303.50	Boisé Barracks	18.50
Fort Reno	15.25	Fort Canby	147.97
Fort Riley	1,293.73	Fort Sherman	113.93
Fort Sill	366.55	Fort Spokane	73.00
Fort Supply	164.74	Fort Townsend	211.72
Fort Wayne	97.75	Vancouver Barracks	205.32
Fort D. A. Russell	42.00	Fort Walla Walla	110.28
Fort Niobrara	81.10	Columbus Barracks	135.00
Fort Robinson	270.00	Davids Island	238.00
Fort Sidney	43.75	Jefferson Barracks	20.05
Fort Washakie	125.05	Willets Point	50.39
Fort Assiniboine	165.55		
Fort Keogh	394.98	Balance, June 30, 1892	67.52
Fort Meade	143.87		
Fort Missoula	16.01	Total	12,000.00
Fort Pembina	6.20		

PURCHASE OF BUILDINGS.

In the Army appropriation act of February 24, 1891, Congress appropriated $50,000 "for the purchase by the Secretary of War of buildings erected at permanent Army posts by private parties, under proper authority, and which may be suitable and actually necessary for the Army service, and at prices to be fixed by the Secretary of War."

Under this provision of law the Secretary of War has authorized the purchase of buildings at the following posts, at the prices stated below:

Fort Leavenworth, Kans	$5,595.00
Fort Riley, Kans	5,000.00
Fort Supply, Ind. Ter	1,260.00
Fort Meade, S. Dak	1,364.52
Fort Bowie, Ariz	420.00
Fort Huachuca, Ariz	3,000.00
Fort Custer, Mont	5,000.00
Fort Pembina, N. Dak	1,068.00
Fort Yates, N. Dak	3,500.00
Angel Island, Cal	2,500.00
Presidio of San Francisco, Cal	3,000.00
Fort Canby, Wash	600.00
Fort Sherman, Idaho	2,280.00
Fort Townsend, Wash	465.00
Fort Reno, Okla	990.00
Fort McIntosh, Tex	800.00
Fort Washakie, Wyo	300.00
Fort Hancock, Tex	400.00
Fort Douglas, Utah	150.00
Fort McKinney, Wyo	1,980.00
Balance available June 30, 1892	10,327.48
Total	50,000.00

The expenditure authorized at Fort Meade was for the purchase of a canteen building, and at Fort Washakie for the purchase of a building erected by a society of Odd Fellows at that post. With these two exceptions, the buildings purchased had been the property of the former post traders at the various posts.

Losses by fire.

Post.	Building.	Amount of damage.
Fort Clark	Sawmill	Destroyed.
	Quartermaster's storehouse	Do.
Fort Supply	No. 34, containing ordnance storehouse, shop, etc.	Do.
	No. 30, used as officers' mess and non-commissioned officers' quarters.	Do.
Fort McKinney	Three cavalry barracks	Do.
	Post exchange	Do.
Fort Ringgold	Subsistence storehouse	Do.
Fort Niobrara	Administration building	Do.
Fort Apache	Sawmill	Do.
Fort Leavenworth	Warehouse, No. 115	Do.
	Ice house	Do.
Mount Vernon Barracks	Officers' quarters	Do.
Fort Preble	Quartermaster's stable	Do.
Vancouver Barracks	Ordnance storehouse	About $950.
Fort Robinson	Officers' quarters, No. 11	About $1,100.
Fort Riley	Hospital laundry	About $225.
Fort Wingate	Chapel	Interior damaged.
Davids Island	Officers' mess, No. 45	About $60.
	Bandmaster's quarters	About $52.
Presidio of San Francisco	Officers' quarters, No. 11	About $63.
Fort Sully	Chapel and school	Loss of $273.33.

Losses by storm.

Post.	Building.	Amount of damage.
Fort Niobrara	Storehouses	$303.48.
Fort Leavenworth	Various buildings	$3,773.41.
Fort Keogh	do	$445.00.
Fort Riley	Oil house	Destroyed.
	Blacksmith shop and old stables	Considerably damaged.
	Various buildings	Slightly damaged.
Fort Reno	Adjutant's office, cavalry barracks, No. 19 etc.	$691,56.
Fort Brady	Company barracks	Slightly damaged.
Jackson Barracks	Quarters, Nos. 4, 5, 6, 11, 13, and 15	Do.
Fort Leavenworth	Artillery stable, No. 91	Do.
Fort Myer	Barracks and quarters	Do.
	Coal shed	$102.73.
Fort Yates	Cavalry stables	$131.31.
Fort Wadsworth	Administration building	Slightly damaged.
San Carlos	Old cavalry stables	Destroyed.
Madison Barracks	Various buildings	$169.13.

A statement is herewith submitted, marked A, of the property rented by the Quartermaster's Department during the fiscal year, as shown by estimates of funds, etc.

Very respectfully,

C. P. MILLER,
Captain, and Assistant Quartermaster, U. S. Army.

A.—*Statement showing property rented by the Quartermaster's Department during the fiscal year ending June 30, 1892, and total amount paid, as shown by estimates of funds, etc.*

DEPARTMENT OF THE EAST.

Post or station.	Designation.	Amount.
Fort McPherson, Ga	Quarters for two musicians	$288.00
	Quarters for post-quartermaster sergeant	54.00
Atlanta, Ga	Office for quartermaster's department	300.00
	Office for pay department	300.00
Columbia Arsenal, Tenn	Quarters for sergeant of ordnance	120.00
Fort Caswell, N. C	Quarters for ordnance sergeant	96.00
Yorktown, Va	Quarters for soldier in charge of monument	50.00
New Orleans, La	Storehouses for quartermaster's and subsistence departments.	1,199.97
	Offices for quartermaster's and subsistence departments.	1,080.00
Baltimore, Md	Offices for quartermaster's, subsistence, and pay departments.	633.33
Boston, Mass	Offices for quartermaster's subsistence, pay, and ordnance departments.	1,629.96
Buffalo, N. Y	Office for quartermaster's department	750.00
Providence, R. I	Office for ordnance department	300.00
Sackets Harbor, N. Y	Office for constructing quartermaster	102.00
Washington Barracks, D. C	Camping ground on march of troops	200.00
Madison Barracks, N. Y	Quarters for one lieutenant	168.00
Fort Adams, R. I	Camping ground for recruiting party	25.00
Cleveland, Ohio	Two rooms for court martial	88.00
Fort Myer, Va	Quarters for ordnance sergeant	12.00
Total Department of the East.		7,396.26

DEPARTMENT OF THE MISSOURI.

St. Louis, Mo	Offices, headquarters of department (July and August, 1891).	$1,800.00
	Stable for headquarters (July and August, 1891)	100.00
Chicago, Ill	Offices, headquarters Division of Missouri for July, 1891; and headquarters of department from August 1, 1891, including office and storeroom for depot quartermaster.	18,231.43
	Office for attending surgeon	194.35
	Office and storeroom for subsistence department	3,600.00
	Quartermaster's stables	1,800.00
	Temporary quarters for men detailed as clerk and messenger.	19.95
Fort Sheridan, Ill	Quarters for post quartermaster-sergeant	120.00
Highland Park, Ill	Office and stable for constructing quartermaster at Fort Sheridan.	220.00
Minco, Ind. T	Office for transportation agent, quartermaster's department.	120.00
Woodward, Ind. T	do	240.00
Leavenworth, Kans	Office for pay department	300.00
Oklahoma, Okla	Quarters for officer	10.00
	Quarters for post quartermaster sergeant	60.00
Fort Sill, Okla	Quarters for signal sergeant	108.00
Sault Ste. Marie, Mich	Office for constructing quartermaster at Fort Brady	360.00
Fort Riley, Kans	Camping grounds on practice march of troops	57.00
Total, Department of the Missouri.		27,340.73

DEPARTMENT OF THE PLATTE.

Omaha, Nebr	Headquarters, offices, etc	$9,360.00
	Stable lot	500.04
Cheyenne, Wyo	Paymaster's office	160.00
Salt Lake City, Utah	do	360.00
Ogden, Utah	Quartermaster's storehouse and office	384.00
Price, Utah	do	360.00
Rushville, Nebr	do	32.00
Denver, Colo	Offices for quartermaster's, subsistence, and pay departments.	1,890.00
Fort Logan, Colo	Quarters for three noncommissioned staff officers	540.00
Taylors Ranch, Utah	Quarters for signal sergeant	140.00
Total Department of the Platte.		13,726.04

A.—*Statement showing property rented by the Quartermaster's Department during the fiscal year ending June 30, 1892, etc.*—Continued.

DEPARTMENT OF DAKOTA.

Post or station.	Designation.	Amount.
Helena, Mont	Office for paymaster, and office, storehouse, and stable for quartermaster's department.	$600.00
Fort Yellowstone, Wyo	Quarters for lieutenant	120.00
Bismarck, N. Dak	Quarters for signal sergeant	120.00
Department of Dakota	Camping grounds for troops on practice marches	300.00
	Lodgings for enlisted men	90.00
Total Department of Dakota.		1,320.00

DEPARTMENT OF TEXAS.

San Antonio, Tex	Quarters for two commissary sergeants	$288.00
	Quarters for post commissary	73.20
	Quarters for chief musician	144.00
	Quarters for two principal musicians	288.00
	Quarters for ordnance sergeant	132.00
	Quarters for post quartermaster sergeant	144.00
	Quarters for regimental sergeant major	72.00
	Quarters for regimental quartermaster sergeant	144.00
	Quarters for signal sergeant	132.00
Pena Station, Tex	Office for quartermaster's agent	96.00
Edinburg, Tex	Storeroom and quarters for detachment	180.00
Camp Pena Colorado, Tex	Site	600.00
Camp Eagle Pass, Tex	do	900.00
Camp Santa Maria, Tex	do	150.00
Fort Davis, Tex	do	225.00
Camp Polvo, Tex	Quarters for detachment of negro-Indian troops	120.00
Fort Bliss, Tex	Barracks, quarters, etc	2,100.00
	Office for constructing quartermaster	384.00
	Stable for constructing quartermaster	67.50
Total Department of Texas.		6,239.70

DEPARTMENT OF CALIFORNIA.

San Francisco, Cal	Offices, department headquarters	$12,000.00
	Stabling, department headquarters	736.00
	Quarters for signal sergeant	144.00
Total Department of California.		12,880.00

DEPARTMENT OF ARIZONA.

Albuquerque, N. Mex	Office for two paymasters	$525.00
Los Angeles, Cal	Offices, department headquarters	7,200.00
	Storeroom for quartermaster's department	125.00
	Stable and grounds for quartermaster's department	360.00
	Office of attending surgeon	225.00
	Quarters for two signal sergeants	288.00
	Office for paymaster	140.00
San Diego Barracks, Cal	Hospital	900.00
	Quarters for officers	2,562.00
Carthage, N. Mex	Quarters for signal sergeant	144.00
Cooleys, Ariz	do	144.00
Holbrook, Ariz	do	144.00
Willcox, Ariz	do	144.00
Santa Fe, N. Mex	Quarters for noncommissioned staff officers	362.67
Total Department of Arizona.		13,303.67

A.—*Statement showing property rented by the Quartermaster's Department during the fiscal year ending June 30, 1892, etc.*—Continued.

DEPARTMENT OF THE COLUMBIA.

Post or station.	Designation.	Amount.
Portland, Oregon	Offices for quartermaster's and pay departments	$840.00
	Office for depot and purchasing commissary of subsistence.	552.00
	Quartermaster's storeroom	720.00
	Office for temporary use by Maj. Belcher	60.00
Walla Walla, Wash	Office for paymaster	360.00
Boise Barracks, Idaho	Quarters for officer	220.00
Department of the Columbia	Lodgings for enlisted men	96.35
Total Department of the Columbia.		2,848.35

GENERAL DEPOTS OF THE QUARTERMASTER'S DEPARTMENT.

New York depot	Quarters for two hospital stewards on duty at medical purveying depot.	$252.00
	Quarters for hospital steward on duty at attending surgeon's office.	168.00
	Stable at No. 122 West Eighteenth street	1,350.00
Total New York depot		1,770.00
Philadelphia depot	Offices and stable at No. 1428 Arch street	2,150.04
	Office for attending surgeon	186.00
Total Philadelphia depot		2,336.04
Washington depot	Lots 9 and 10, square 231, occupied by subsistence department.	399.96
	Lots 49 to 58, inclusive, and lot 63, square 100, occupied by quartermaster's department.	1,800.00
	Quarters for hospital steward on duty at army medical dispensary.	252.00
	Quarters for five signal sergeants	592.40
	Office for military attaché, Paris, France	144.00
	Office for military attaché, Berlin, Germany	360.00
	Office for military attaché, Dusseldorf, Germany	258.65
	Office for military attaché, Vienna, Austria	144.00
	Office for military attaché, St. Petersburg, Russia	403.20
	Office for military attaché, London, England	144.00
Total Washington depot		4,498.21
St. Louis depot	Offices, storerooms, and stable for quartermaster's and pay departments.	2,970.04
	Office and storehouse for medical department	2,000.04
	Office for subsistence department	950.00
	Office for temporary use by Maj. Foster	40.00
Total St. Louis depot		5,960.08
San Francisco depot	Offices and storerooms for medical, subsistence, and quartermaster's departments.	9,999.96
	Quartermaster's storeroom	1,500.00
	Storage for turpentine, oils, etc	940.00
Total San Francisco depot		12,439.96

RECAPITULATION.

Department, etc.	Amount.
Department of the East	$7,396.26
Department of the Missouri	27,340.73
Department of the Platte	13,726.04
Department of Dakota	1,320.00
Department of Texas	6,239.70
Department of California	12,880.00
Department of Arizona	13,203.67
Department of the Columbia	2,848.35
New York depot	1,770.00
Philadelphia depot	2,336.04
Washington depot	4,498.21
St. Louis depot	5,960.08
San Francisco depot	12,439.96
Total	111,959.04

10.

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., September 15, 1892.

GENERAL: I have the honor to submit a report of the operations of the reservation branch of this office for the fiscal year ending June 30, 1892.

This branch has charge of title papers to all lands in custody of the War Department for military uses, except such as are designed for permanent fortifications, or for armories, arsenals, and ordnance depots; and of collecting and compiling information in regard to each reservation. It also has charge of all matters relating to water works and water supply, sewerage, plumbing, structural heating, lighting, fire protection, etc., and of conducting all correspondence in connection therewith.

At the close of the last fiscal year the question of the acquisition of land adjoining or near to the post of Madison Barracks, New York, was pending. The purchase has since been completed, the full amount authorized by act of March 2, 1889, $10,000, expended, and the deeds recorded and filed in this office.

The sale of ground at Pittsburg, Pa., authorized by act of May 21, 1890 (Public No. 125), which was pending at the close of last fiscal year, has not been concluded. The depot quartermaster, Washington, D. C., who had been directed to take the necessary action, reported, March 16, 1892, that it was offered for sale on the 11th instant, according to advertisement, but no bids were received. He therefore suggested waiting until there should be some manifest demand which would insure a sale at a fair price, and no subsequent action has been taken.

Action on the purchase of a site for a military post at Eagle Pass, Tex. (old Fort Duncan), under the provisions of the act of March 3, 1891, which was suspended by the Secretary of War May 22, 1891, has been renewed, and instructions have been given to obtain the title papers necessary for the consideration of the Attorney-General.

The appropriation of $16,500 by act of June 27, 1890 (G. O. 69, 1890), for purchase of land for target ranges at Fort McPherson, Ga., still remains unexpended, suitable ground not having been obtained in the vicinity of the post.

Under the provisions of the act of February 7, 1891 (G. O. 19, 1891), title has been acquired, free of cost to the United States, of a tract of 506.35 acres of land for a target range and for other military purposes near the post of Plattsburg Barracks, New York. The title has been approved by the Attorney-General and the deeds recorded and filed in this office.

The State of New York, by act of March 6, 1890, authorized the United States to acquire land, not to exceed 1,000 acres, in Plattsburg, for military purposes, and ceded jurisdiction over same when acquired.

General Orders affecting military reservations have been published during the year (to September 12) 1892, as follows:

No. 57, of July 3, 1891, by authority of the President of July 2, 1891, discontinues military divisions, and establishes eight military departments.

No. 68, of July 30, 1891, by authority of the President of July 20, 1891, transfers to Interior Department, under act of July 5, 1884, a part of the reservation of Fort Buford, N Dak. Area not stated.

No. 79, of October 3, 1891, directs the withdrawal of the garrison and the abandonment of Fort Bennett, S Dak. On Indian reservation.

No. 84, October 15, 1891, by authority of the President of September 10, 1891, transfers to the Interior Department, under act of July 5, 1884, the reservation of Fort Abraham Lincoln, N. Dak. Area, 15,040 acres, and in addition thereto the island in the Missouri River known as Sibleys Island, with an area of 13,696 acres.

No. 85, October 22, 1891, by authority of the President of October 9, 1891, transfers to Interior Department, under act of July 5, 1884, the hay reservation, the coal-field reservation, and part of the post reservation of Fort Assinniboine, Mont. Area of reduction not stated.

Same order, by authority of the President of October 7, 1891, transfers to Interior Department under act of July 5, 1884, tne reservation of Fort Cummings, New Mexico. Area, 23,040 acres.

Same order, by authority of the President of October 7, 1891, transfers to the Interior Department, under act of July 5, 1884, the reservation of Fort Marcy, N. Mex. Area, 17 acres, 3,425 square yards and 2,656 square feet.

No. 89, November 12, 1891, transfers to the Interior Department, under act of July 31, 1882 (22 Stat., 181), the post of Fort Lewis, Colo., and its buildings and appurtenances for Indian school purposes so long as it may not be required for military purposes.

No. 91, November 21, 1891, rescinds that portion of G. O. 85 which transfers Fort Marcy to the Interior Department.

February 11, 1892, the Secretary of War, in letter to Secretary of Interior (no general order), transfers to that Department, under act of July 31, 1882, the military reservation of Fort Gaston, Cal., and the buildings thereon for use for Indian school purposes.

No. 14, February 19, 1892, directs withdrawal of troops from Fort Gaston, Cal.

No. 18, March 15, 1892, by authority of the President of October 2, 1891, modifies the reservation of Fort Barrancas, Fla.

No. 18, II, corrects inaccuracies in the description of boundary lines of the reservation of Fort Assinniboine, Mont., as given in General Orders 85, Adjutant-General's Office, October 22, 1891.

No. 26, March 30, 1892, by authority of the President of March 17, 1892, transfers to the Interior Department, under act of July 5, 1884, the reservation at Fort Sheldon, N. Mex. Area, 15 square miles and 13.7381 acres.

No. 30, April 30, 1892, under act of July 31, 1882 (22 Stat., 181), Secretary of War transfers the post of Fort Shaw, Mont., its buildings and appurtenances, to the Interior Department so long as not required for military occupation.

No. 31, May 4, 1892, publishes act of April 23, 1892, to establish a military post near Little Rock, Ark.

Act of May 12, 1892 (Public No. 60), authorizes the establishment of a military post at or near the city of Helena, in Lewis and Clarke County, Mont., upon the conveyance to the United States of a good and sufficient title to not less than 1,000 acres of land, without cost to the United States, to be approved and accepted by the Secretary of War, and appropriates $100,000 to defray the expenses of locating said post and for construction of barracks, quarters, etc.: Provided, that no part of said sum shall be expended until the said tract of land shall have been conveyed to and accepted by the United States.

No. 40, June 10, 1892, by authority of the President of May 31, 1892, reserves for military purposes two islands, containing 1.96 and 0.04 acres, respectively, in channel of Matanzas River, at St. Augustine, Fla.

No. 43, June 25, 1892, by authority of the President of June 4, 1892, sets apart wood reservation for the post of Fort Sill, Okla., containing 26,880 acres.

No. 52, p. 4, August 5, 1892, publishes act of July 23, 1892, appropriating $25,000 to enable the Secretary of War, in his discretion, to purchase land adjoining the reservation at Sandy Hook, N. J., with right of way, etc.

No. 56, II, August 13, 1892, publishes act of July 21, 1892, authorizing the Leonard Avenue Street Railway Company to lay tracks upon certain streets abutting upon the military reservation known as Columbus Barracks, Ohio.

Same order, III, publishes act of July 21, 1892, granting right of way to the Mexican Gulf, Pacific and Puget Sound Railroad Company over and through the United States naval and military reservations near Pensacola, Fla. (Fort Barrancas).

Same order, VII, publishes act of July 28, 1892, authorizing the Secretary of War to lease public property in certain cases.

Same order, X, publishes joint resolution of July 28, 1892, extending the time for the construction of a hotel on the reservation at Fort Monroe, Va.

General Orders 58, p. 13, authorizes use of $60,000 therein appropriated to commence construction of post near Little Rock, Ark., when conditions of act of April 23, 1892 (General Orders 31), shall have been complied with.

Same order, p. 13, authorizes use of the $100,000 appropriated by act of May 12, 1892 (Public No. 60), for the establishment of a military post at Helena, Mont., when title to the land shall have been acquired, not only for locating the post and the construction of buildings, but also for water supply and sewerage.

Same order, p. 13, authorizes the Secretary of War to establish a military post at a point near the northern frontier, where he may, in his judgment, deem it for the public good, provided that suitable land is donated free of cost to the United States, and that the title shall be declared valid by the Attorney-General.

No. 59, August 15, 1892, transfers the reservation of Yerba Buena Island, California, to the control of the Engineer Department for use and occupation as a torpedo station for the Pacific coast.

Custodians are still employed and paid by this Department for the care of reservations that have been turned over to the Interior Department, as follows:

	Per month.
Fort Lowell, Ariz., Wm. C. Dunn	$40
Fort Verde, Ariz., Lewis M. Turner	60
Fort Gibson, Ind. T., C. M. Doty	60
Fort Elliott, Tex., D. H. Doty	60
Fort Bridger, Wyo., Mary E. Carter	75
Fort Crawford, Colo., Thomas H. Dougherty	45
Fort Maginnis, Mont., Emil A. Plum	60

In addition to the foregoing, custodians are employed and paid by this Department, as follows:

	Per month.
Camp Del Rio, Tex., John Glynn	$30
Yerba Buena Island, Cal., Wm. Barnard	25
Fort Bennett, S. Dak., Herbert Lounsbury	No pay.
Fort Shaw, Mont., Adolph Roensch	No pay.
Monterey, Cal., Francis Dowd (except grazing cattle)	No pay.
Fort Union, N. Mex., Sergt. Morgan Robinson, Company D, Tenth Infantry in charge.	
Oklahoma, Okla., August 26, 1892, employment of agent authorized, at	30

A shows the expenditures that have been authorized for water, sewerage, plumbing, etc., chargeable to appropriation for Army transportation.

B shows the expenditures that have been authorized for lighting, heating, etc., chargeable to the appropriation for regular supplies.

C is a list of military reservations turned over by the War Department to the Interior Department, or otherwise disposed of by the War Department, from 1858 to December 31, 1892, with date of relinquishment, authority therefor, etc.

D is an alphabetical list of military reservations, showing location, size, how occupied, accommodations for officers, men, etc., on June 30, 1892.

OSCAR F. LONG,
Captain and Assistant Quartermaster, U. S. Army.

The QUARTERMASTER-GENERAL, U. S. ARMY.

A.—*Expenditures authorized for water, sewerage, plumbing, etc., chargeable to the appropriation for Army transportation for 1891–'92.*

Station.	Amount.
Department of the East.	
Fort Warren, Mass	$1,065.60
Governors Island, N. Y. Harbor	3,098.40
Fort Monroe, Va	3,371.54
Fort Schuyler, N. Y. Harbor	5,425.26
Fort Hamilton, N. Y. Harbor	1,941.27
St. Francis Barracks, Fla	98.55
Fort Wadsworth, N. Y. Harbor	541.66
Fort Preble, Maine	631.80
Madison Barracks, N. Y	30,282.50
Fort Thomas, Ky	11,418.07
Fort Niagara, N. Y	11,845.95
Jackson Barracks, La	4,711.82
Washington Barracks, D. C	1,020.69
Newport Barracks, Ky	33.65
Fort McPherson, Ga	4,880.05
Fort Trumbull, Conn	718.25
Mt. Vernon Barracks, Ala	2,820.00
Fort Barrancas, Fla	600.00
Fort Myer, Va	14,580.42
Fort Adams, R. I	775.83
Plattsburg Barracks, N. Y	85.17
Fort Porter, N. Y	4,454.73
Fort Ontario, N. Y	97.50
Fort Wood, N. Y. Harbor	300.00
Key West, Fla	700.00
Total	105,498.71
Department of Dakota.	
Fort Assiniboine, Mont	4,176.41
Fort Pembina, N. Dak	1,291.21
Fort Keogh, Mont	3,846.21
Fort Buford, N. Dak	582.07
Fort Meade, S. Dak	808.23
Fort Snelling, Minn	6,759.89
Fort Custer, Mont	834.33
Fort Missoula, Mont	598.46
St. Paul, Minn	132.90
Fort Yates, N. Dak	1,074.47
Fort Sully, S. Dak	826.35
Fort Yellowstone, Wyo	7,346.73
Camp Poplar River, Mont	134.38
Total	28,411.64
Department of the Platte.	
Fort Randall, S. Dak	$4.80
Fort McKinney, Wyo	471.81
Fort D. A. Russell, Wyo	10,267.11
Fort Niobrara, Nebr	13,455.78
Fort Douglas, Utah	1,998.25
Fort Sidney, Nebr	516.91
Fort Omaha, Nebr	927.35
Camp Pilot Butte, Wyo	13.10
Fort Robinson, Nebr	6,095.89
Fort Du Chesne, Utah	487.45
Fort Washakie, Wyo	907.27
Fort Logan, Colo	8,911.83
Fort Crook, Nebr	49,986.82
Total	94,044.35
Department of the Missouri.	
Fort Leavenworth, Kans	11,516.16
Fort Riley, Kans	1,930.89
Fort Supply, Ind. T	2,102.00
Fort Reno, Okla. T	4,050.15
Fort Sill, Okla. T	1,552.50
Oklahoma, Okla. T	359.43
Fort Sheridan, Ill	24,841.22
Fort Wayne, Mich	375.85
Fort Mackinac, Mich	416.78
Fort Brady, Mich	9,005.39
Total	56,180.37
Department of Texas.	
San Antonio Depot, Tex	293.55
Fort Sam Houston, Tex	7,249.57
Fort McIntosh, Tex	958.41
Fort Brown, Tex	492.18
Fort Ringgold, Tex	2,145.17
Fort Bliss, Tex	51,974.70
Fort Clark, Tex	9,746.96
Fort Hancock, Tex	75.00
Total	72,835.54

A.—*Expenditures authorized for water, sewerage, plumbing, etc., chargeable to the appropriation for Army transportation for 1891–92*—Continued.

Station.	Amount.	Station.	Amount.
Department of Arizona.		*Department of the Columbia.*	
Whipple Barracks, Ariz	$506.22	Fort Vancouver, Wash	$958.29
Fort Huachuca, Ariz	1,289.62	Fort Sherman, Idaho	787.40
Fort Marcy, N. Mex	566.00	Fort Townsend, Wash	455.95
Fort Apache, Ariz	1,783.51	Fort Walla Walla, Wash	249.71
Fort Bayard, N. Mex	1,210.49	Fort Canby, Wash	742.70
Fort Bowie, Ariz	100.00	Fort Spokane, Wash	1,464.78
Fort Grant, Ariz	602.43	Boise Barracks, Idaho	1,153.25
Fort Stanton, N. Mex	1,164.12	Total	5,813.08
Fort Wingate, N. Mex	492.84		
San Carlos, Ariz	956.62	*Independent Posts.*	
Los Angeles, Cal	24.00		
San Diego, Cal	192.25	Jefferson Barracks, Mo	$9,079.04
Total	8,858.10	Davids Island, N. Y. Harbor	2,146.15
Department of California.		Columbus Barracks, Ohio	4,598.25
		Washington Depot, D. C	35.00
Benicia Barracks, Cal	$1,015.04	San Francisco Depot, Cal	15.00
Alcatraz Island, Cal	2,185.52	St. Louis Depot, Mo	230.55
Angel Island, Cal	2,613.24	West Point, N. Y	98.50
Presidio of San Francisco, Cal	737.77	Willets Point, N. Y. Harbor	8,447.41
Fort Mason, Cal	319.38	Philadelphia Depot	40.00
Fort Gaston, Cal	337.10		
Fort Bidwell, Cal	71.80	Total	24,688.00
Total	7,279.85	Aggregate	403,709.64

B.—*Expenditures authorized for lighting, heating, etc., chargeable to the appropriation for regular supplies for 1891–1892.*

Station.	Amount.	Station.	Amount.
Fort Bliss, Tex	$105.27	Davids Island, N. Y. Harbor	$1,144.80
Fort Brown, Tex	7.50	Jefferson Barracks, Mo	5,944.35
Fort Elliott, Tex	34.00	Jeffersonville Depot, Ind	131.86
Fort Hamilton, N. Y. Harbor	1,712.00	Los Angeles, Cal	32.00
Fort Leavenworth, Kans	404.13	Madison Barracks, N. Y.	142.78
Fort Logan, Colo	8,822.70	Philadelphia Depot, Pa	35.00
Fort McKinney, Wyo	100.00	St. Paul, Minn	293.07
Fort Meade, S. Dak	420.84	Washington Depot, D. C	1,279.50
Fort Monroe, Va	1,928.52	Willets Point, N. Y	6,482.77
Fort Myer, Va	5,115.60	Fort McPherson, Ga	10,310.00
Fort Niagara, N. Y	190.00	Chicago Depot, Ill	12.00
Fort Omaha, Nebr	91.00	Washington Barracks, D. C	47.00
Fort Porter, N. Y	283.30	Fort Brady, Mich	11,769.72
Fort Riley, Kans	891.63	Fort Leavenworth, Kans	29,455.00
Fort Schuyler, N. Y. Harbor	26.00	Fort Wingate, N. Mex	760.00
Fort Sheridan, Ill	36,895.08		
Fort Thomas, Ky	26,194.39	Total	153,998.00
Columbus Barracks, Ohio	8,424.70		

military reservations turned over by the War Department to the Interior De- or otherwise disposed of by the War Department, from 1858 to December 31, date of relinquishment, authority therefor, etc.

of post.	Date of relinquishment.	Authority for relinquishment.	Remarks.
Fort, Dak	Mar. 25, 1871	Act Feb. 24, 1871	Portion east of the Red River of the North. G. O. 19, A. G. O., 1871.
	July 14, 1880	Act June 10, 1880	Reservation abolished. G. O. 55, A. G. O., 1880.
		Act July 15, 1882	Reservation abolished. G. O. 85, A. G. O., 1882.
coln, Fort, N.	Oct. 15, 1891	Act July 5, 1884	15,040 acres, also Sibleys Island, containing 13,606 acres. G. O. 84, A. G. O., 1891.
t, Ind. T	July 9, 1870	Indian treaty of Apr. 28, 1866.	
Fort, Mont	Oct. 22, 1891	Act July 5, 1884	Hay reservation, coal reservation, and part of post reservation. Area not stated. G. O. 85, A. G. O., 1891.
t, Iowa		Act June 7, 1860	12 Statute, 28.
		Act Mar. 5, 1888	Arsenal block. For educational purposes only. G. O. 30, A. G. O., 1888.
Barracks, La	Aug. 22, 1884	Act July 5, 1884	44.17 acres. G. O. 102, A. G. O., 1884.
		Act June 12, 1886	By Secretary Interior to State University. G. O. 55, A. G. O., 1886.
S. Dak		Order of Secretary of War of Oct. 3, 1891, G.O.79, A.G.O., 1891.	On Indian reservation. No formal reservation.
Mont	Jan. 5, 1883	Act Aug. 4, 1882	G. O. 110, A. G. O., 1882.
Cal	Feb. 13, 1885	Act July 5, 1884	Portion, 123.26 acres. G. O. 16, A. G. O., 1885.
	Nov. 19, 1890	do	Remainder, 3,090 acres. G. O. 135, A. G. O., 1890. Garrison not withdrawn.
and	July 22, 1884	do	9,199.43 acres. G. O. 80, A. G. O., 1884.
aho	Sept. 19, 1874		Wood and sawmill reservation. Not formally reserved.
	Apr. 19, 1884	Act Feb. 14, 1853. Sec. 9, 10 Stat., 159.	Hay reservation in excess of 640 acres.
al		Act July 27, 1868	On Mendocino Indian Reservation. G. O. 74, A. G. O., 1878.
ich	Jan. 21, 1878	Act Mar. 1, 1869	Not to exceed 1 acre to Baptist Missionary Society. G. O. 25, A. G. O., 1869.
		Act Mar. 3, 1875	Grants 1.26 acres for school purposes. G. O. 41, A. G. O., 1875.
Wyo	Mar. 25, 1871	Act Feb. 24, 1871	Portion 496 square miles. G. O. 19, A. G. O., 1871.
	Feb. 15, 1872	do	Modifies G. O. 19, A. G. O., 1871.
	July 22, 1884	Act July 5, 1884	Coal reservation, 99.17 acres. G. O. 80, A. G. O., 1884.
	Oct. 14, 1890	do	10,240 acres. G. O. 123, A. G. O., 1890.
Fla	Jan. 4, 1883	Act Aug. 18, 1856	148.11 acres. 11 stat. p. 87.
N. Dak	July 30, 1891	Act July 5, 1884	Portion. Area not stated. G. O., 68, A. G. O., 1891.
I. Mex	July 22, 1884	Act July 5, 1884	76,800 acres. G. O. 80, A. G. O., 1884.
al	do	do	1,562 acres. G. O. 80, A. G. O. 1884.
, Utah	July 2, 1885	do	23,378 acres. War Dept. circular, July 9, 1885.
nd. T	Sept. 7, 1882	Act July 31, 1882	For Indian schools.
Nev	Mar. 20, 1888	Act July 5, 1884	920 acres. War Dept. circular Mar. 26, 1888.
cks, Pa	Dec. 22, 1879	Order of Secretary of War, Aug. 22, 1879.	About 30 acres. For Indian school purposes until required for military purposes.
, Wash	Feb. 2, 1807		Private claim.
t, Nev	June 15, 1871		No formal reservation.
Dak	July 16, 1872	Act May 15, 1872	G. O. 35, A. G. O., 1872.
Wash	Feb. 26, 1887	Act July 5, 1884	1,070 acres. War Dept. circular Mar. 1, 1887.
rt, Md	Jan. —, 1869	Act June 25, 1868	G. O. 39, A. G. O., 1868.
, Fort, Idaho	Apr. 27, 1886	Act July 5, 1884	Winter pasturage, 640 acres. War Dept. Circular, May 3, 1886.

A.—*Expenditures authorized for water, sewerage, plumbing, etc., chargeable to the appropriation for Army transportation for 1891–'92*—Continued.

Station.	Amount.
Department of Arizona.	
Whipple Barracks, Ariz	$506.22
Fort Huachuca, Ariz	1,289.62
Fort Marcy, N. Mex	566.00
Fort Apache, Ariz	1,783.51
Fort Bayard, N. Mex	1,210.49
Fort Bowie, Ariz	100.00
Fort Grant, Ariz	602.43
Fort Stanton, N. Mex	1,164.12
Fort Wingate, N. Mex	492.84
San Carlos, Ariz	956.62
Los Angeles, Cal	24.00
San Diego, Cal	162.25
Total	8,858.10
Department of California.	
Benicia Barracks, Cal	$1,015.04
Alcatras Island, Cal	2,185.52
Angel Island, Cal	2,613.24
Presidio of San Francisco, Cal	737.77
Fort Mason, Cal	319.38
Fort Gaston, Cal	337.10
Fort Bidwell, Cal	71.80
Total	7,279.85

Station.	Amount.
Department of the Columbia.	
Fort Vancouver, Wash	$859.29
Fort Sherman, Idaho	787.40
Fort Townsend, Wash	455.95
Fort Walla Walla, Wash	249.71
Fort Canby, Wash	742.70
Fort Spokane, Wash	1,464.78
Boise Barracks, Idaho	1,153.25
Total	5,813.08
Independent Posts.	
Jefferson Barracks, Mo	$9,079.04
Davids Island, N. Y. Harbor	2,146.15
Columbus Barracks, Ohio	4,596.35
Washington Depot, D. C	35.00
San Francisco Depot, Cal	15.00
St. Louis Depot, Mo	230.55
West Point, N. Y	98.50
Willets Point, N. Y. Harbor	8,447.41
Philadelphia Depot	40.00
Total	24,688.00
Aggregate	403,709.64

B.—*Expenditures authorized for lighting, heating, etc., chargeable to the appropriation for regular supplies for 1891–1892.*

Station.	Amount.
Fort Bliss, Tex	$105.27
Fort Brown, Tex	7.50
Fort Elliott, Tex	34.00
Fort Hamilton, N. Y. Harbor	1,712.00
Fort Leavenworth, Kans	404.13
Fort Logan, Colo	8,322.70
Fort McKinney, Wyo	100.00
Fort Meade, S. Dak	420.84
Fort Monroe, Va	1,928.52
Fort Myer, Va	5,115.60
Fort Niagara, N. Y	190.00
Fort Omaha, Nebr	91.00
Fort Porter, N. Y	283.30
Fort Riley, Kans	891.63
Fort Schuyler, N. Y. Harbor	26.00
Fort Sheridan, Ill	36,895.08
Fort Thomas, Ky	26,194.39
Columbus Barracks, Ohio	3,424.70
Davids Island, N. Y. Harbor	$1,144.90
Jefferson Barracks, Mo	5,944.35
Jeffersonville Depot, Ind	131.86
Los Angeles, Cal	32.00
Madison Barracks, N. Y	142.78
Philadelphia Depot, Pa	35.00
St. Paul, Minn	293.07
Washington Depot, D. C	1,279.50
Willets Point, N. Y	6,482.77
Fort McPherson, Ga	10,310.00
Chicago Depot, Ill	12.00
Washington Barracks, D. C	47.00
Fort Brady, Mich	11,769.72
Fort Leavenworth, Kans	29,455.00
Fort Wingate, N. Mex	760.00
Total	153,988.00

C.—*List of military reservations turned over by the War Department to the Interior Department, or otherwise disposed of by the War Department, from 1858 to December 31, 1892, with date of relinquishment, authority therefor, etc.*

Name of post.	Date of relinquishment.	Authority for relinquishment.	Remarks.
Abercrombie, Fort, Dak	Mar. 25, 1871	Act Feb. 24, 1871	Portion east of the Red River of the North. G. O. 19, A. G. O., 1871.
Do	July 14, 1880	Act June 10, 1880	Reservation abolished. G. O. 55, A. G. O., 1880.
Do		Act July 15, 1882	Reservation abolished. G. O. 85, A. G. O., 1882.
Abraham Lincoln, Fort, N. Dak	Oct. 15, 1891	Act July 5, 1884	15,040 acres, also Sibleys Island, containing 13,696 acres. G. O. 84, A. G. O., 1891.
Arbuckle, Fort, Ind. T	July 9, 1870	Indian treaty of Apr. 28, 1866.	
Assiniboine, Fort, Mont	Oct. 22, 1891	Act July 5, 1884	Hay reservation, coal reservation, and part of post reservation. Area not stated. G. O. 85, A. G. O., 1891.
Atkinson, Fort, Iowa		Act June 7, 1860	12 Statute, 28.
Austin, Tex		Act Mar. 5, 1888	Arsenal block. For educational purposes only. G. O. 30, A. G. O., 1888.
Baton Rouge Barracks, La	Aug. 22, 1884	Act July 5, 1884	44.17 acres. G. O. 102, A. G. O., 1884.
Do		Act June 12, 1886	By Secretary Interior to State University. G. O. 55, A. G. O., 1886.
Bennett, Fort, S. Dak		Order of Secretary of War of Oct. 3, 1891, G.O.79, A.G.O., 1891.	On Indian reservation. No formal reservation.
Benton, Fort, Mont	Jan. 5, 1883	Act Aug. 4, 1882	G. O. 110, A. G. O., 1882.
Bidwell, Fort, Cal	Feb. 13, 1885	Act July 5, 1884	Portion, 123.26 acres. G. O. 16, A. G. O., 1885.
Do	Nov. 19, 1890	do	Remainder, 3,090 acres. G. O. 135, A. G. O., 1890. Garrison not withdrawn.
Bois Blanc Island	July 22, 1884	do	9,199.43 acres. G. O. 80, A. G. O., 1884.
Boise, Fort, Idaho	Sept. 19, 1874		Wood and sawmill reservation. Not formally reserved.
Do	Apr. 19, 1884	Act Feb. 14, 1853. Sec. 9, 10 Stat., 159.	Hay reservation in excess of 640 acres.
Bragg, Fort, Cal		Act July 27, 1868	On Mendocino Indian Reservation. G. O. 74, A. G. O., 1878.
Brady, Fort, Mich	Jan. 21, 1878	Act Mar. 1, 1869	Not to exceed 1 acre to Baptist Missionary Society. G. O. 25, A. G. O., 1869.
Do		Act Mar. 3, 1875	Grants 1.26 acres for school purposes. G. O. 41, A. G. O., 1875.
Bridger, Fort, Wyo	Mar. 25, 1871	Act Feb. 24, 1871	Portion 496 square miles. G. O. 19, A. G. O., 1871.
Do	Feb. 15, 1872	do	Modifies G. O. 19, A. G. O., 1871.
Do	July 22, 1884	Act July 5, 1884	Coal reservation, 99.17 acres. G. O. 80, A. G. O., 1884.
Do	Oct. 14, 1890	do	10,240 acres. G. O. 123, A. G. O., 1890.
Brooke, Fort, Fla	Jan. 4, 1883	Act Aug. 18, 1856	148.11 acres. 11 stat. p. 87.
Buford, Fort, N. Dak	July 30, 1891	Act July 5, 1884	Portion. Area not stated. G. O., 68, A. G. O., 1891.
Butler, Fort, N. Mex	July 22, 1884	Act July 5, 1884	76,800 acres. G. O. 80, A. G. O., 1884.
Cady, Camp, Cal	do	do	1,562 acres. G. O. 80, A. G. O. 1884.
Cameron, Fort, Utah	July 2, 1885	do	23,378 acres. War Dept. circular, July 9, 1885.
Cantonment, Ind. T	Sept. 7, 1882	Act July 31, 1882	For Indian schools.
Carlin (near), Nev	Mar. 20, 1888	Act July 5, 1884	920 acres. War Dept. circular Mar. 26, 1888.
Carlisle Barracks, Pa	Dec. 22, 1879	Order of Secretary of War, Aug. 22, 1879.	About 30 acres. For Indian school purposes until required for military purposes.
Cascades, Fort, Wash	Feb. 2, 1887		Private claim.
Churchill, Fort, Nev	June 15, 1871		No formal reservation.
Collins, Fort, Dak	July 16, 1872	Act May 15, 1872	G. O. 35, A. G. O., 1872.
Colville, Fort, Wash	Feb. 26, 1887	Act July 5, 1884	1,070 acres. War Dept. circular Mar. 1, 1887.
Covington, Fort, Md	Jan. —, 1869	Act June 25, 1868	G. O. 39, A. G. O., 1868.
Coeur d'Alene, Fort, Idaho	Apr. 27, 1886	Act July 5, 1884	Winter pasturage, 640 acres. War Dept. Circular, May 3, 1886.

C.—*List of military reservations turned over by the War Department to the Interior Department, etc.*—Continued.

Name of post.	Date of relinquishment.	Authority for relinquishment.	Remarks.
Craig, Fort, N. Mex	Mar. 3, 1885	Act July 5, 1884	24,895 acres. G. O. 21, A. G. O., 1885.
Crawford, Fort, Iowa		Act July 1, 1864	
Crawford, Fort, Colo	July 22, 1884	Act July 5, 1884	Portion. G. O. 80, A. G. O., 1884.
Do	Dec. 30, 1890	do	Remainder, 5,472 acres. G. O. 148, A. G. O., 1890.
Crawford, Fort, Wis		Act Mar. 3, 1862	
Crittenden, Fort, Utah	July 22, 1884	Act July 5, 1884	94,550 acres. G. O. 80, A. G. O., 1884.
Crittenden, Camp, Ariz	do	do	3,278.08 acres. G. O. 80, A. G. O., 1884.
Crook, Fort, Cal		Act Feb. 15, 1881	Act restores to public domain. G. O. 25, A. G. O., 1881.
Cummings, Fort, N. Mex	Oct. 20, 1891	Act July 5, 1884	23,040 acres. G. O. 85, A. G. O., 1891.
Dakota, Fort, Dak		Act July 14, 1870	
Dalles, Fort, Oregon	Mar. 28, 1877	Act Mar. 3, 1877	G. O. 24, 1877.
Date Creek, Camp, Oregon	Dec. 7, 1874	Act June 22, 1874	G. O. 88, A. G. O., 1874.
Dodge, Fort, Kans	Jan. 12, 1885	Act July 5, 1884	12,000 acres. G. O. 6, A. G. O., 1885.
Douglas, Fort, Utah		Act May 16, 1874	Not to exceed 20 acres for a public cemetery. G. O. 47, A. G. O., 1874.
Do	Apr. 17, 1885	Act Jan. 21, 1885 (23 Stat., 284).	Portion (151.81 acres) private claim. G. O. 35, A. G. O., 1885.
Drum Barracks, Cal		Act Feb. 25, 1873	To be reconveyed to Banning and Wilson.
Ellis, Fort, Mont	July 26, 1886	Act July 5, 1884	32,116.10 acres. War Dept. cir., July 29, 1886.
Elliott, Fort, Tex	Oct. 14, 1890	do	2,560 acres. G. O. 123, A. G. O. 1890.
Fayette, Fort, Pa		Act May 21, 1890	Public, No. 125.
Fetterman, Fort, Wyo	July 22, 1884	Act July 5, 1884	45,085.56 acres. G. O. 80, A. G. O., 1884.
Fred Steele, Fort, Wyo	Aug. 9, 1886	do	24,833.29 acres. Except cemetery site. War Department circular, Aug. 12, 1886.
Galveston, Tex		Act July 15, 1870	Lands donated to city. G. O. 100, A. G. O., 1870.
Gaston, Fort, Cal	Feb. 11, 1892	Act July 31, 1882 (22 Stat., 181).	451.5 acres. No general order. Letter of Secretary of War of Feb. 11, 1892. See G. O. 14, A. G. O., 1892.
Gibson, Fort, Ind. T	Feb. 7, 1891	Act July 5, 1884	5,541 acres. National cemetery excepted. G. O. 15, A. G. O., 1891.
Goodwin, Camp, Ariz	July 22, 1884	do	5,760 acres. G. O. 80, A. G. O., 1884.
Grant (old), Camp, Ariz	do	do	2,031.70 acres. G. O. 80, A. G. O., 1884.
Green, Fort, R. I		Act Feb. 23, 1887	To city of Newport as a public park. G. O. 25, A. G. O., 1887.
Gratiot, Fort, Mich	Nov. 9, 1880	Act July 20, 1868	Portion. G. O. 60, A. G. O., 1868.
Do		Act Mar. 18, 1870. Amends act July 20, 1868.	20.9 acres. G. O. 49, A. G. O., 1870.
Do		Act of Mar. 3, 1873.	Cemetery grounds. G. O. 45, A. G. O., 1873.
Do		Act June 16, 1880	Remainder. G. O. 55, A. G. O., 1880.
Greenwood Island, Miss	Dec. 26, 1890	Act July 5, 1884	100 acres. G.O. 147, A.G.O., 1890.
Hall, Fort, Idaho	Apr. 26, 1883	Act July 31, 1882	For Indian schools.
Halleck, Fort, Nev	Oct. 11, 1886	Act July 5, 1884	10,900.93 acres. War Department circular, Oct. 28, 1886.
Hamer, Fort, Fla	Feb. 26, 1876	Act Aug. 18, 1856	
Hancock Barracks, Me		Act Mar. 14, 1872	Sale authorized.
Harker, Fort, Kans	July 12, 1880	Act June 15, 1880	G. O. 55, A. G. O., 1880.
Hartsuff, Fort, Nebr	July 22, 1884	Act July 5, 1884	3,251.41 acres. G. O. 80, A. G. O., 1884.
Hays, Fort, Kans	May 13, 1886	Act June 11, 1884	Portion, not to exceed 165 acres. G. O. 53, A. G. O., 1884.
Do	Nov. 2, 1889	Act July 5, 1884	Remainder, 7,600 acres. G. O. 81, A. G. O., 1889.
Hoskins, Fort, Oregon	Feb. 16, 1891		No formal reservation.
Hot Springs, Ark	Aug. 27, 1890	Act July 5, 1884	All of square or block 94. G. O. 96, A. G. O., 1890.
Houston, Fort, Tenn		Act June 23, 1874	Donated to Fisk University for educational purposes. G. O. 86, A. G. O., 1874.

C.—*List of military reservations turned over by the War Department to the Interior Department, etc.*—Continued.

Name of post.	Date of relinquishment.	Authority for relinquishment.	Remarks.
Howard, Fort, Wis		Act Mar. 3, 1863	Portion.
Do		Act July 4, 1866	Remainder.
Hualpai, Fort, Ariz	Apr. 22, 1874		No formal reservation.
Humboldt, Fort, Cal	Apr. 6, 1870		Do.
Independence, Camp, Cal	July 22, 1884	Act July 5, 1884	5,210.38 acres. G. O. 80, A. G. O., 1884.
Je up, Fort, La	Mar. 25, 1871	Act Feb. 24, 1871	G. O. 19, A. G. O., 1871.
Jones, Fort, Cal	May 27, 1870		No formal reservation.
Jupiter, Fort, Fla	Mar. 16, 1880	Act Aug. 18, 1856. (11 Stat., 87.)	9,088.38 acres. Except lighthouse lot.
Kearney, Fort (old), Iowa		Act Apr. 15, 1874	
Kearney, Fort, Nebr	Dec. 2, 1876	Act July 21, 1876	G. O. 111, A. G. O., 1876.
Keogh, Fort, Mont		Act July 30, 1890. Public, 218.	Portion east of Tongue River.
Key Biscaine, Fla	July 9, 1870	Act Aug. 18, 1856	
Klamath, Fort, Oregon	May 4, 1886	Act July 5, 1884	3,335.68 acres. War Department circular, May 6, 1886.
Lane, Fort, Oregon	Mar. 25, 1871	Act Feb. 24, 1871	G. O. 19, A. G. O., 1871.
Lapwai, Fort, Idaho	June 5, 1882	Act July 31, 1882	Post reserve for Indian schools.
Do	May 7, 1884	Act Feb. 14, 1853. (10 Stat., 159.)	Hay reservation in excess of 640 acres.
Laramie, Fort, Wyo		Act Aug. 14, 1876	Restores a portion to public domain. G. O. 90, A. G. O., 1876.
Do	June 9, 1890	Act July 5, 1884	G. O. 60, A. G. O., 1890.
Larned, Fort, Kans	Mar. 26, 1883	Act Aug. 4, 1882	G. O. 110, A. G. O., 1882.
Leavenworth, Fort, Kans	Dec. 23, 1868	Act July 2, 1868	Sale of 20 acres in southeast corner to Leavenworth Coal Co.
Do		Act Feb. 9, 1871	Sale of 128.82 to Kansas Agricultural and Mechanical Association. G. O. 14, A. G. O., 1871.
Do		Act Mar. 2, 1889	Lease of 9.75 acres to Leavenworth Water Co. while lands are used as a military site. G. O. 39, A. G. O. 1889.
Lewis, Fort, Colo	Nov. 12, 1891	Act July 31, 1882 (22 Stat., 181).	30,336 acres. G. O. 89, A. G. O., 1891.
Little Rock Barracks, Ark	Oct. 14, 1890	Act July 5, 1884	36.01 acres. G. O. 123, A. G. O., 1890.
Logan, Fort, Mont	June 4, 1881	Act May 8, 1880	Sale at auction. G. O. 78, A. G. O., 1880.
Louisiana, State of*	Sept. 23, 1886	Act July 5, 1880	6,170.79 acres. War Department circular, Sept. 28, 1886.
Lowell, Fort, Ariz	Mar. 5, 1891	Act July 5, 1884	Area not stated. G. O. 24, A. G. O., 1891.
Lyon, Fort (old), Colo	July 22, 1884	do	38,000 acres. G. O. 80, A. G. O., 1884.
Lyon, Fort, Colo	Dec. 2, 1889	do	5,874 acres. G. O. 9, A. G. O., 1890.
McDermit, Fort, Nev	Dec. 1, 1886	do	Hay reservation, 6,400 acres. War Department circular, Dec. 3, 1886.
Do	July 24, 1889	do	Post reserve, 3,974.40 acres. G. O. 67, A. G. O., 1889.
McGarry, Camp, Nev	Mar. 25, 1871	Act Feb. 24, 1871	G. O. 19, A. G. O., 1871.
McDowell, Fort, Ariz	Oct. 1, 1890	Act July 31, 1882 (22 Stat., 181).	Post, buildings, etc., for Indian school purposes until required for military purposes. G. O. 115, A. G. O., 1890.
Do	Mar. 2, 1891	Act July 5, 1884	Containing 25,628 acres. G. O. 22, A. G. O., 1891.
McHenry, Fort, Md		Act June 19, 1878	Site for a dry dock to Baltimore Dry Dock Co. G. O. 44, A. G. O., 1878.
McKinney, Fort, Wyo	Jan. 16, 1889	Act July 5, 1884	Portion, estimated 640 acres. G. O. 5, A. G. O., 1889.
McPherson, Fort, Nebr	Jan. 5, 1887	do	19,500 acres, all except National cemetery tract, War Department circular, Jan. 10, 1887.
McRae, Fort, N. Mex	July 22, 1884	do	2,560 acres. G. O. 80, A. G. O., 1884.
Mackinac, Fort, Mich		Act Mar. 1, 1879	Portion to Messrs. Wendell Van Allen & Bailey. G. O. 19, A. G. O., 1879.
Maginnis, Fort, Mont	Aug. 14, 1890	Act July 5, 1884	31,059.21 acres. G. O. 91, A. G. O., 1890.

*Ten reservations on the Gulf coast as follows: One near the eastern mouth of Bayou La Fourche; one near western mouth of Bayou La Fourche; one on bayou plat; one near western entrance to Caminada Bay; one near the pass at the eastern end of Grand Terre Island; one near the mouth of Quatre Bayou Pass; one at Bastian Bay; three near Bastian Bay.

C.—*List of military reservations turned over by the War Department to the Interior Department, etc.*—Continued.

Name of post.	Date of relinquishment.	Authority for relinquishment.	Remarks.
Mason, Fort (Point San José), Cal.	.....	Act July 1, 1870	Portion to the city and county of San Francisco, Cal. G. O. 87, A. G. O., 1870.
Missouri River, island in, Mo.	July 22, 1884	Act July 5, 1884	G. O. 80, A. G. O., 1884.
Mojave, Fort, Ariz	Sept. 29, 1890	Act July 31, 1882. (22 Stat., 181).	14,697 acres. Indian school purposes until required for military occupation. G. O. 111, A. G. O., 1890.
Oglethorpe Barracks, Ga	Apr. 7, 1884	Act Apr. 7, 1882.....	G. O. 46, A. G. O., 1882.
Oklahoma, Okla.....	Oct. 4, 1892	Act July 5, 1884	160 acres. G. O. 69, A. G. O., 1892.
Pagosa Springs (old Fort Lewis, Colo.)	July 22, 1884	.....do	21,838.08 acres. G. O. 80, A. G. O., 1884.
Pikes Peak, Colo	Jan. 16, 1889	.....do	8,192 acres. G. O. No. 5 of 1889.
Plattsburg Barracks, N. Y...	.....	Act June 8, 1872	25 acres to the New York and Canada R. R. Co. G. O. 66, A. G. O., 1872.
Do.....	.....	Act June 30, 1879.....	2 acres, etc., to R. R. Co. G. O. 70, A. G. O., 1879.
Point Roberts, Wash	Sept. 23, 1890	Act July 5, 1884.....	1,472 acres, G. O. 107, A. G. O., 1890.
Presidio of San Francisco, Cal.	.....	Act May 9, 1876.....	Portion to city of San Francisco, G. O. 44, A. G. O., 1876.
Randall, Fort, Dak	.....	Act May 18, 1874.....	Portion, G. O. 47, A. G. O., 1874.
Do.....	July 22, 1884	Act July 5, 1884	Portion (24,503.53 acres north of Missouri River) not already transferred under act of May 18, 1874. G. O. 80, A. G. O., 1884.
Do.....	.....	Act Oct. 1, 1890. (Public, 343).	Portion opened to settlers.
Ransom, Fort, N. Dak.....	July 14, 1880	Act June 10, 1880	G. O. 55, A. G. O., 1880.
Reading, Fort, Cal	.....	Act Feb. 15, 1881.....	Restores to public domain. G. O. 25, A. G. O., 1881.
Reynolds, Fort, Colo	July 18, 1874	Act June 19, 1874.....	G. O. 86, A. G. O., 1874.
Rice, Fort, S. Dak.....	July 22, 1884	Act July 5, 1884.....	Estimated at 102,400 acres. G. O. 80, A. G. O., 1884.
Ridgely, Fort, Minn.....	.....	Act July 1, 1870.....	G. O. 87, A. G. O., 1870.
Riley, Fort, Kans	.....	Joint resolution of Mar. 2, 1867.	Reduces area, etc. G. O. 29, A. G. O., 1867.
Ripley, Fort, Minn.....	.....	Act Feb. 28, 1873	Portion. G. O. 28, A. G. O., 1873.
Do.....	July 2, 1880	Act Apr. 1, 1880.....	Restored to public domain. G. O. 22, A. G. O., 1880.
Rush Lake Valley, Utah.....	July 22, 1884	Act July 5, 1884.....	5,131.47 acres, G. O. 80, A. G. O. 1884.
Sabine, Fort, La.....	Mar. 25, 1871	Act Feb. 24, 1871.....	G. O. 19, A. G. O., 1871.
St. Augustine. Fla.....	Oct. 15, 1883	Act Aug. 18, 1856 (11 Stat., 87).	.1619 and .12786 acres. Hospital lot and blacksmith's shop lot.
Do.....	Mar. 18, 1886	Act July 5, 1884	Old powder-house lot, or governor's garden lot, 10.29 acres.
Do.....	Nov. 18, 1886	.....do	Dragoon barracks lot, 1.15 acres, War Department circular, Nov. 20, 1886.
St. Marks, Fla.....	Oct. 27, 1892	Act July 5, 1884	50 acres, G. O. 74, A. G. O. 1892.
Sanders, Fort, Wyo.....	.....	Act June 9, 1874	Reduces area, G. O. 60, A. G. O., 1874.
Do.....	Aug. 22, 1884	Act July 5, 1884	19,342 acres. G. O. 102, A. G. O., 1884.
Sedgwick, Fort, Colo. and Nebr.	July 22, 1884	.....do	40,960 acres. G. O. 80, 1884.
Selden, Fort, N. Mex.....	Apr. 9, 1890	Act July 31, 1882 (22 Stat., 181).	G. O. 44, A. G. O., 1890.
Selden, Fort, N. Mex	Mar. 30, 1892	Act July 5, 1884	9613.7381 acres. G. O. 26, A. G. O., 1892.
Seward, Fort, Dak.....	July 14, 1880	Act June 10, 1880	G. O. 55, A. G. O., 1880.
Shaw, Fort, Mont	Apr. 30, 1892	Act July 31, 1882 (22 Stat., 181).	29,843 acres. G. O. 30, A. G. O., 1892.
Sheridan, Camp, Nebr.....	July 22, 1884	Act July 5, 1884.....	18,225 acres. G. O. 80, A. G. O., 1884.
Smith, Fort, Ark.....	Mar. 25, 1871	Act Feb. 24, 1871.....	G. O. 19, A. G. O., 1871.
Sisseton, Fort, Dak	Apr. 22, 1889	Act July 5, 1884.....	81,920 acres. War Department circular, May 1, 1889.
Snelling, Fort, Minn	Dec. 23, 1873	Act May 7, 1870.....	Reduced to 1,531.21 acres. G. O. 66, A. G. O., 1870.
Soldiers' Key, Fla	July 9, 1870	Act Aug. 18, 1856.....	
Stambaugh, Camp, Wyo.....	May 3, 1881	.....	No formal reservation.
Stanton, Fort, N. Mex.....	Aug. 7, 1872	Act May 21, 1872.....	Reduces reservation. G. O. 35, A. G. O., 1872.
Stellacoom, Fort, Wash.....	.....	Act Apr. 15, 1874.....	Donates portion to Washington, for use of insane asylum. G. O. 32, A. G. O., 1874.
Do.....	July 22, 1884	Act July 5, 1884.....	289 acres. G. O. 80, A. G. O., 1884.
Stevenson, Fort, Dak	Apr. 19, 1883	Act July 31, 1882.....	For Indian schools.

C.—*List of military reservations turned over by the War Department to the Interior Department, etc.*—Continued.

Name of post.	Date of relinquishment.	Authority for relinquishment.	Remarks.
Sullivan, Fort, Me	July 22, 1884	Act July 5, 1884	12.54 acres. G. O. 80, A. G. O., 1884.
Sumner, Fort, N. Mex	Mar. 25, 1871	Act Feb. 24, 1871	Except national cemetery. G. O. 19, A. G. O., 1871.
Sulphur Creek, Wyo	July 22, 1884	Act July 5, 1884	Coal reservation. G. O. 80, A. G. O., 1884.
Thornburg, Fort, Utah	do	do	21,851 acres. G. O. 80, A. G. O., 1884.
Thomas Fort, Arizona	Dec. 2, 1892	do	10,487 acres. G. O. 81, A. G. O., 1892.
Three Forks, Owyhee, Camp Idaho.	July 22, 1884	do	4,800 acres. G. O. 80, A. G. O., 1884.
Totten, Fort, Dak	Oct. 1, 1890	Act July 31, 1882 (22 Stat., 181).	Post, buildings, etc., for Indian school purposes until required for military purposes. G. O. 115, A. G. O., 1890.
Uncompahgre cantonment on Colorado.	July 22, 1884	Act July 5, 1884	Portion 4,000 acres. G. O. 80, A. G. O., 1884.
Verde, Fort, Ariz	do	do	Garden tract, 3,000 acres. G. O. 80, A. G. O., 1884.
Do	Oct. 14, 1890	do	9,293.79 acres. G. O. 123, A. G. O., 1890.
Wallace, Fort, Kans	July 22, 1884	do	8,926.09 acres. G. O. 80, A. G. O., 1884.
Walla Walla, Fort, Wash	Oct. 26, 1875	Act Apr. 29, 1872	Portion of hay reserve. G. O. 35, A. G. O., 1872.
Do	do	Act June 8, 1872	Timber reserve. G. O. 66, A. G. O., 1872.
Do	May 3, 1880	do	Remainder of hay reserve.
Do	do	do	Portion of post reservation.
Wallen, Camp, Ariz	Apr. 22, 1874		No formal reservation.
Washita, Fort, Ind. T	July 1, 1870		Do.
Waterford, Pa		Act Mar. 4, 1868	
Wayne, Fort, Ark	Mar. 26, 1871	Act Feb. 24, 1871	G. O. 19, A. G. O., 1871.
Whipple Barracks, Ariz	Oct. 21, 1875	Act June 22, 1874	Portion. G. O. 88, A. G. O., 1874.
Do	July 22, 1884	Act July 5, 1884	Timber reserve, 720 acres. G. O. 80, A. G. O., 1884.
White River, Camp, on Colo	do	do	40,960 acres. G. O. 80, A. G. O., 1884.
Wilkins, Fort, Mich	do	do	148.35 acres. G. O. 80, A. G. O., 1884.
Willow Grove, Camp, Ariz	Apr. 22, 1874		No formal reservation.
Wilmington Depot, Cal		Act Feb. 25, 1873	To be reconveyed to Banning and Wilson. G. O. 45, A. G. O., 1875.
Yuma, Fort, Ariz	Dec. 7, 1874	Act June 22, 1874	Portion. G. O. 88, A. G. O., 1874.
Yuma, Fort, Ariz. and Cal	Jan. 9, 1884		Indian school purposes.
Do	July 22, 1884	Act July 5, 1884	Inoperative. G. O. 80, A. G. O., 1884.
Zarah, Fort, Kans	Mar. 25, 1871	Act Feb. 24, 1871	G. O. 19, A. G. O., 1871.

D.—*Military reservations showing location, size, how occupied, etc., on June 30, 1892.*

Adams, Fort, R. I.—Latitude, 41° 28′; longitude, 71° 22′. On Brentons Point, 3 miles from Newport, which is the post-office, railroad, and telegraph station, and from which the post is reached by boat or road. Contains 138¼ acres. Cession of jurisdiction by State act of June 5, 1824. Present garrison, headquarters and 4 batteries of artillery. Accommodations for 16 officers in cottages and 7 in casemates. Accommodations for 208 men. One barrack building for light battery outside of fort, and casemates occupied by 3 foot batteries. Water supply from Newport City water works. Sewer system.

Alcatraz Island, Cal.—Latitude, 37° 49′; longitude, 122° 27′. In the Bay of San Francisco, 4 miles northeast from the city. Post-office at the post. Railroad and telegraph station, San Francisco. Government steamer to post daily, except Sunday. Reservation, the whole island, about 12 acres. No cession of jurisdiction. Present garrison, 2 batteries of artillery. Accommodations for 10 officers and 73 men, one double barrack. Salt-water supply pumped from the bay by steam power. Fresh water brought from San Francisco on steamer and stored in cisterns. Sewer system.

Angel Island, Cal.—Latitude, 37° 48′; longitude, 122° 28′. In the Bay of San Francisco, 7 miles northeast from the city. Post-office and telegraph station at the post. Railroad station San Francisco. Government steamer to post daily, except Sunday. Reservation, the entire island, about 640 acres. No cession of jurisdiction. Present garrison, headquarters, and 5 companies of infantry. Accommodations for 13 officers and 204 men, 6 barracks. Water supply from springs conducted by gravity to reservoirs, whence distribution is made to all parts of the post. Sewer system.

Apache, Fort, Ariz.—Latitude, 33° 47′; longitude 109° 57′. On White Mountain River, in Apache County, 90 miles from Holbrook, on Atlantic and Pacific Railroad, and 339 miles from Prescott. Post-office and telegraph station at the post. Buckboard, daily, except Sunday, from Holbrook. Reservation, 7,421 acres. Present garrison, 4 troops cavalry and 1 of infantry. Accommodations for 13 officers and 420 men, 7 barracks. One set of quarters (commanding officers) and 2 sets (line officers) in course of construction. Water supply brought by gravity from 3 miles up the White River, through an acequia. Partial sewer system.

Assiniboine, Fort, Mont.—Latitude, 48° 30′; longitude, 109° 45′. On Beaver Creek, 1½ miles from station of same name on Great Northern Railroad, 209 miles from Helena, and 996 miles from St. Paul. Post-office, telegraph, and railroad station at the post. Reservation, about 704,000 acres, reduced by General Order 85, of 1891. Area of reduction not stated. Cession of jurisdiction by constitution of Montana. Present garrison, 2 troops of cavalry and headquarters, and 7 companies infantry. Accommodations for 36 officers and 605 men. Ten barracks; water supply from Beaver Creek, forced by steam power into a distributing tank; supply inadequate in summer. An artesian well is being sunk with the view of securing a more permanent supply; no sewer system, natural drainage; night soil removed by scavengers.

Barrancas, Fort, Fla.—Latitude, 30° 19′; longitude, 87° 16′. On north side of Pensacola Harbor, 9 miles southwest of Pensacola. Post-office, Warrington, Fla.; telegraph station, Pensacola navy-yard; railroad station at Pensacola; special boat to post. Reservation contains about 2,500 acres, the boundaries of which were modified by General Order 18, Adjutant-General's Office, 1892. No cession of jurisdiction. Present garrison, 1 battery artillery. Accommodations for 11 officers and 186 men. One barrack building designed for 4 companies. Water supply from wells and cisterns. No sewer system.

Bayard, Fort, N. Mex.—Latitude, 32° 48′; longitude, 108° 9′. Nine miles from Silver City, on Atchison, Topeka and Santa Fe Railroad. Post-office and telegraph station at the post. Railroad station, Hall's, 2 miles from post; no stage. Reservation, 15 square miles and 520 acres; present garrison, headquarters, 4 companies infantry, and 2 troops cavalry; accommodations for 20 officers and 400 men; 6 barracks and 1 band barrack; water supply pumped from springs to reservoir and distributed through iron pipes by gravity; sewer system.

Benicia Barracks, Cal.—Latitude, 38° 2′; longitude 122° 7′. Post-office, telegraph station, and boat landing, Benicia; distance, 1 mile. Railroad station, Central Pacific, Army Point, distance ¾ mile. Reservation, 98.78 acres. Cession of jurisdiction by State acts of April 27, 1852, and March 14, 1855. Present garrison, 3 companies infantry. Accommodations for 8 officers and 122 men. Four barracks. Water supply from Benicia Water Company Sewer system.

Bidwell, Fort, Cal.—Latitude, 41° 52′; longitude, 120° 6′. In Surprise Valley, 193 miles from Reno, Nev., on Central Pacific Railroad, 452 miles from San Francisco, 8 miles from the Oregon line, and same distance from the Nevada line; post-office at the post; telegraph station, Alturas, Cal.; daily stage from Amedee Station, Cal, distance 135 miles. Reservation, 3,091 acres. Present garrison, 1 company of cavalry. Accommodations for 8 officers and 127 men; 2 barracks. Water supply from a mountain stream, distributed by gravity; natural drainage. This reservation was turned over to Interior Department by General Order 135, Adjutant-General's Office, 1890, but the garrison has not yet been withdrawn.

Bliss, Fort, Tex.—Latitude, 31° 44′; longitude, 106° 29′. On the Rio Grande, 1½ miles above El Paso, on the Atchison, Topeka and Santa Fe Railroad. Post-office, telegraph and railroad station, El Paso, Tex. Reservation, 134.85 acres. Cession of jurisdiction imperfect. Present garrison, 2 companies infantry. Accommodations for 7 officers and 130 men; 2 barracks. Water supply from El Paso city waterworks. Sewer system.

Bliss (new), *Fort, Tex.*—Latitude, 31° 44′; longitude, 106° 29′. On the Kansas City, El Paso and Mexican Railroad, about 6 miles northeast of the city of El Paso. Post-office, telegraph and railroad station, El Paso, Tex. Reservation, 1,265.7 acres. Title acquired under act of March 1, 1890. Cession of jurisdiction by deed of the governor of the State of Texas, dated April 12, 1892. Post, including water and sewer system, in course of construction.

Boise Barracks, Idaho.—Latitude, 42° 32′; longitude, 116° 10′. On the Boise River, 2 miles from Boise City, and 36 miles from Idaho City. Post-office, telegraph and railroad station, Boise City. Reservation, 640 acres. No cession of jurisdiction. Present garrison, 1 troop cavalry and 1 company infantry. Accommodations for 7 officers and 130 men; 2 barracks. Water supply from reservoir, fed by springs, distributed through iron pipes by gravity, for irrigation and sprinkling. Supply for other purposes from Artesian Hot and Cold Water Company of Boise City. Now experimenting for water by boring.

Bowie, Fort, Ariz.—Latitude, 32° 10′; longitude, 109° 22. In Apache Pass, 13 miles from Bowie Station, on the Southern Pacific Railroad. Post-office and telegraph sta-

tion at the post. Daily buckboard from Bowie Station. Reservation, 36 square miles, or 23,040 acres. Present garrison, 1 troop cavalry. Accommodations for 10 officers and 160 men; 3 barracks. Water supply from Bear Springs, pumped by steam power to reservoir, and distributed by gravity. Sewer system.

Brady, Fort, Mich.—Latitude, 46° 30′; longitude, 84° 20′. Within limits of the city of Sault Ste. Marie, on right bank of St. Marys River. Post-office, telegraph and railroad station, Sault Ste. Marie. Boat lands at post in summer. Reservation 26¼ acres. No special cession of jurisdiction, unless embraced in general provisions of State act of March 24, 1874. Present garrison, 2 companies infantry. Accommodations for 6 officers and 73 men; one double and one single barrack. Water supplied from Sault Ste. Marie waterworks; hauled by teamsters.

Brady (new), *Fort, Mich.*—Latitude, 46° 30′; longitude, 84° 20′. To the west of and adjoining the city of Sault Ste. Marie, Mich., on the Minneapolis, Sault Ste. Marie, and Atlantic Railroad. Post-office, telegraph and railroad station, Sault Ste. Marie. Reservation about 75 acres. Title acquired under the provisions of act of July 8, 1886. Cession of jurisdiction same as old Fort Brady. Post in course of construction. Quarters for 7 officers, and water and sewer systems completed.

Brown, Fort, Tex.—Latitude, 25° 53′; longitude, 97° 21′. On the Rio Grande, adjoining the city of Brownsville. Post-office, telegraph and railroad station, Brownsville. Reservation, 358½ acres, owned by private parties. Occupied and used by the United States since March, 1846, without payment of rent or taxes. Appropriation for purchase at $160,000. Payment suspended by authority of resolution of Congress. Suit pending in Court of Claims to compel payment. Present garrison, 1 troop of cavalry. Accommodations for 20 officers and 244 men; 4 barracks. Water supply pumped from Rio Grande into distributing tanks. No sewer system. Open drains.

Buford, Fort, N. Dak.—Latitude, 47° 59′; longitude, 103° 58′. On Missouri River, 2 miles below the mouth of the Yellowstone, on the line of the Great Northern Railroad, 660 miles from St. Paul. Post office, telegraph and railroad station at the post. Reservation about 506,042 acres. Reduced by General Orders 68 of 1891 and area not stated. Cession of jurisdiction by constitution of North Dakota. Present garrison, 1 troop cavalry and 3 companies infantry. Accommodations for 20 officers and 326 men; 6 barracks. Water supply pumped from the Missouri River into an elevated tank and distributed by iron pipes. Partial sewer system.

Canby, Fort, Wash.—Latitude, 46° 17′; longitude, 124° 3′. At the mouth of Columbia River, on the north bank, 14 miles from Astoria, 7 miles from Fort Stevens, Oregon, 112 miles from Portland, Oregon, and 118 miles from Fort Vancouver. Post-office and telegraph station at post; daily steamer from Portland to Astoria, and thence by steam tug to post. Reservation, 588.2 acres. Cession of jurisdiction by constitution of Washington. Present garrison, 2 batteries of artillery. Accommodations for 7 officers and 120 men; 2 barracks. Water supply from springs pumped to reservoir and distributed by gravity; wells now being driven to increase supply; sewer system.

Carroll, Fort, Md.—Latitude, 39° 15′; longitude, 76° 35′. Post-office and telegraph station, Baltimore; distant 6¼ miles from Light street wharf. Reservation, 4 acres. Cession of jurisdiction by State act of March 2, 1846. Not garrisoned. In charge of Engineer Department.

Caswell, Fort, N. C.—Latitude, 34°; longitude, 78° 1′. Oak Island, North Carolina, 2 miles from Southport and 22 miles from Wilmington. Post-office and telegraph station, Southport, N. C. Steamer daily from Wilmington to Southport. Reservation, about 2,325 acres. Cession of jurisdiction by State act of December 26, 1825. Not garrisoned. In charge of ordnance sergeant.

Clark, Fort, Tex.—Latitude, 29° 17′; longitude, 100° 25′. On Las Moras Creek, adjoining the town of Brackettville, 9 miles from Spofford Junction, on Southern Pacific Railroad, and 143 miles from San Antonio. Post-office, Brackettville, Tex.; telegraph station, Fort Clark, via Spofford Junction; daily stage from Spofford Junction. Reservation, 3,963.2 acres. Cession of jurisdiction by State act of December 19, 1849, and governor's deed of April 14, 1884. Present garrison, headquarters and 6 companies infantry. Accommodation for 35 officers and 748 men; 13 barracks. Water supply from Las Moras Springs pumped into tanks and distributed by iron pipes. New water system in course of construction. Partial sewer system.

Clarks Point, Mass.—Latitude, 41° 35′; longitude, 90° 54′. Four miles from New Bedford, which is the post-office and telegraph station. Reservation, 60 acres. Cession of jurisdiction by State act of April 8, 1856, and May 4, 1857. Not garrisoned. In charge of ordnance sergeant.

Clinch, Fort, Fla.—Latitude, 30° 41′; longitude, 81° 28′. On Amelia Island, Florida, 3 miles from Fernandina, which is the post-office, telegraph and railroad station. Reservation, 419.44 acres. No cession of jurisdiction. Not garrisoned. In charge of ordnance sergeant.

Columbus Barracks, Ohio.—Latitude, 39° 57′; longitude, 82° 59′. Post-office and railroad station, Columbus, Ohio; telegraph station at post. Reservation, 77 acres,

3 roods, 8 perches. Cession of jurisdiction by State act of March 21, 1863 Recruiting depot. Accommodations for 15 officers and 555 men; 3 barracks, 1 of which will accommodate 400 men. Two double sets officers' quarters in course of construction. Water supply, Columbus city waterworks. Sewer system.

Columbus, Fort, N. Y. Harbor.—Latitude, 40° 42′; longitude, 74° 9′. On Governors Island, at junction of North and East rivers, 1¼ miles from New York City. Post-office, New York City. Telegraph station, Governors Island. Government steamer from New York City. Contains about 65¼ acres. Cession of jurisdiction by State act of February 15, 1800, and (as to water-covered land) by act of May 7, 1880. Present garrison, 3 batteries of artillery. Fort Columbus will accommodate 7 officers and 174 men; barracks for three small companies. Governors Island (headquarters Department of the East) has accommodations for 18 officers. Water supply from Brooklyn city waterworks.

Constitution, Fort, N. H.—Latitude, 43° 4′; longitude, 70° 49′. On Great Island, N. H., 3 miles from Portsmouth. Post-office, New Castle, N. H. Telegraph and railroad station, Portsmouth. Stage or steamer from Portsmouth. Reservation, 3¼ acres. Cession of jurisdiction by State acts of February 14, 1791, and June 18, 1807. Not garrisoned. In charge of ordnance sergeant.

Crook, Fort, Nebr.—Latitude, 41° 20′; longitude, 96°. On the Union Pacific Railroad, about 5 miles southwest of the city of Omaha. Post-office, telegraph, and railroad station, Omaha. Reservation, 545.67 acres, acquired under act of July 23, 1888. Cession of jurisdiction by State act of March 30, 1889. The reservation has been inclosed, and a water and sewer system is in course of construction.

Custer, Fort, Mont.—Latitude, 45° 44′; longitude, 107° 31′. On the Big Horn River, 33 miles from Custer Station, on the Northern Pacific Railroad, 838 miles from St. Paul. Post-office and telegraph station at the post. Daily stage and mail from Custer Station. Reservation, 36 square miles. Custer battlefield, 1 square mile. Cession of jurisdiction by constitution of Montana. Present garrison, headquarters, 6 troops cavalry, and 2 companies infantry. Accommodations for 24 officers and 565 men; 10 barracks. Water pumped from Little Big Horn River by steam power to an elevated tank and distributed by a system of iron pipes. Natural drainage. Partial sewer system.

D. A. Russell, Fort, Wyo.—Latitude, 41° 8′; longitude, 104° 50′. On Crow Creek, 3 miles west of Cheyenne, which is on Union Pacific Railroad. Post-office, telegraph and railroad station (Cheyenne and Northern) at the post. Post reservation, 4,512 acres. Hay reservation, 2,540.64 acres. No cession of jurisdiction. Present garrison, all of Seventeenth Infantry. Accommodations for 34 officers and 439 men; 9 barracks. The water supply system is received from Crow Creek by percolation through the gravel strata into five wells, from whence it is pumped into two reservoirs and distributed to the post. Sewer system.

Davids Island, N. Y.—Latitude, 40° 53′; longitude, 73° 48′. At the southwestern extremity of Long Island Sound, 3 miles from New Rochelle, Westchester County, N. Y., 22 miles from New York City. Post-office at the post. Telegraph station, New Rochelle, N. Y. Horse cars and boat to the post. Reservation, the entire island, about 86¼ acres. Cession of jurisdiction by State act of April 20, 1868, and (as to water covered land) by act of May 7, 1880. Recruiting depot. Accommodations for 10 officers and 632 men; 12 barracks. One double set officers' quarters in course of construction. Water supply from New Rochelle waterworks. Sewer system.

Davis, Fort, Tex.—Latitude, 30° 36′; longitude, 103° 36′. In Jeff Davis County, Tex., in a pass of the Apache Mountains, 22 miles from Marfa, on the Galveston, Harrisburg and San Antonio Railroad. Reservation, 300 acres. Cession of jurisdiction by State act of December 19, 1849, and governor's deed of September 17, 1883. Not garrisoned.

Delaware, Fort, Del.—Latitude, 39° 35′; longitude, 76° 34′. On Pea Patch Island, Delaware, 1½ miles from Deleware City and 42 miles from Philadelphia. Post-office and telegraph station, Delaware City. Daily steamer from Philadelphia to Delaware City. Reservation, about 90 acres. Cession of jurisdiction by State act of March 27, 1813. Not garrisoned. In charge of ordnance sergeant.

Del Rio, Camp, Tex.—Latitude, 29° 22′; longitude, 100° 46′. On Galveston, Harrisburg and San Antonio Railroad, 1 mile from the station. Reservation, 407.93 acres. Cession of jurisdiction by State act of December 19, 1849, and governor's deed of July 28, 1882. Accommodations for 4 officers and 40 men (estimated). Not garrisoned. In charge of paid custodian.

Douglas, Fort, Utah.—Latitude, 40° 46′; longitude, 111° 56′. East of and overlooking Salt Lake City. Distance, 3 miles. Post-office, telegraph, and railroad station, Salt Lake City, which is on Utah Central and Rio Grande Western Railroads, 37 miles from Ogden on Union Pacific Railroad. Horse cars from Salt Lake City to post. Post is also reached from Salt Lake City by trains on Salt Lake and Fort Douglas Railroad. Reservation, 4 square miles, less 151 acres surrendered by

act of Congress. Present garrison, all of Sixteenth Infantry. Accommodations for 27 officers and 534 men; 11 barracks. Water supply piped by gravity to reservoir at post and distributed through iron pipes. Sewer system.

Duchesne, Fort, Utah.—Latitude, 40° 16′; longitude, 109° 52′. On the right bank of the Uintah River, about 8 miles above its confluence with the Duchesne River, and on the road between Ouray, about 20 miles distant, and White Rocks, about 15 miles distant. Post reached by wagon and stage from Price Station, distance 88 miles, on Denver and Rio Grande Western Railroad. Freight goes by this route. Post-office and telegraph station at the post. Reservation provisional, 6 square miles, within the limits of the Uintah Indian Reservation. Present garrison, 2 troops cavalry and 1 company infantry. Accommodations for 19 officers and 315 men; 6 barracks. Water supplied by water wagon. No sewer system.

Dutch Island, R. I.—Latitude, 41° 30′; longitude, 71° 24′. Five miles from Newport. Post-office, Jamestown, R. I. Telegraph station, Newport. Steam ferry from Newport to Jamestown, 4 miles, and private boat thence to post, 1 mile. Reservation, 75 acres. Cession of jurisdiction by State act of January 18, 1865. Not garrisoned. In charge of ordnance sergeant.

Eagle Pass, Tex.—Latitude, 28° 42′; longitude, 100° 30′. In Maverick County, part of old Fort Duncan. Reservation, 62.94 acres, leased. Present garrison, 1 troop cavalry. Accommodations for 8 officers and 61 men; 2 barracks.

Finns Point, N. J.—Latitude, 39° 32′; longitude, 75° 45′. On the Delaware River, 6 miles from Salem, N. J., which is the post-office, telegraph, and railroad station. Reservation, 104.35 acres Cession of jurisdiction by State acts of April 6, 1871, and February 1, 1872. Not garrisoned. In charge of Engineer Department.

Foote, Fort, Md.—Latitude, 38° 48′; longitude, 77° 41′. On the Potomac River, 9 miles from Washington. Post-office, at the post. Telegraph station, Alexandria, Va. Steamer from Washington, D. C. Reservation, about 66¼ acres. Cession of jurisdiction by State act of April 1, 1872. Not garrisoned. In charge of ordnance sergeant.

Gaines, Fort, Ala.—Latitude, 30° 15′; longitude, 88° 4′. On Dauphin Island, Ala., 30 miles from Mobile by boat, which is the post-office, telegraph, and railroad station. Reservation, about 983.9 acres. Cession of jurisdiction by State act of January 28, 1853, and governor's deed of November 25, 1853. Not garrisoned. In charge of ordnance sergeant.

Goose Island, Wash.—Latitude, 48° 31′; longitude, 122° 58′. In the Strait of San Juan de Fuca.

Georges, Fort, Me.—Latitude, 43° 39′; longitude, 70° 13′. On Hog Island, Portland Harbor, Me., 2 miles from Portland, which is the post-office, telegraph, and railroad station. Reservation, about 1½ acres. Cession of jurisdiction by State act of April 17, 1857. Not garrisoned. In charge of ordnance sergeant.

Grant, Fort, Ariz.—Latitude. 32° 37′; longitude, 109° 54′. In Pima County, 27 miles from Wilcox, on the Southern Pacific Railroad. Post-office and telegraph station, at the post. Daily stage, except Sunday, from Wilcox. Reservation, 42,341 acres. Present garrison, headquarters, 3 troops cavalry, and 2 companies infantry. Accommodations for 24 officers and 380 men; 7 barracks. Water supply piped from reservoir fed by streams. Sewer system.

Griswold, Fort, Conn.—Latitude, 41° 22′; longitude, 81° 8′. Groton Heights, 1 mile from New London. Post-office, Groton, Conn. Telegraph and railroad station, New London. Ferry from New London to post. Reservation, 14 acres. Cession of jurisdiction by State act of June 9, 1842.

Hamilton, Fort, N. Y.—Latitude, 40° 37′; longitude, 74° 1′. On shore of Long Island, 5½ miles south of New York City, commanding the Narrows. Post-office and telegraph station, at the post. City railroad from Brooklyn, distance 6 miles. Reservation, 98 acres. In addition thereto 55 acres have recently been acquired by condemnation proceedings. Cession of jurisdiction by State acts of March 20, 1807, March 18, 1808, November 27, 1824, April 17, 1826, February 14, 1851, April 18, 1861, February 20, 1862, and (as to water-covered land), May 7, 1880, and commissioner's deed of November 16, 1812. Present garrison, headquarters and 4 companies artillery. Accommodations for 19 officers (2 in casemates) and 250 men; 4 barracks. One double set officers' quarters in course of construction. Water supply from Brooklyn City waterworks. Sewer system.

Hancock, Fort, Tex.—Latitude, 31° 20′; longitude, 105° 55′. Situated on the Rio Grande, 54 miles southeast of El Paso and 1¼ miles from Hancock Station, on the Southern and Texas Pacific Railroad. Post-office, at the post. Telegraph and railroad station, Fort Hancock Station, distance 1¼ miles. Reservation, 1469.2 acres. Cession of jurisdiction by State act of December 19, 1849,, and governor's deed of October 8, 1883. Present garrison, 1 company cavalry. Accommodations for 4 officers and 63 men; 1 barrack. Water supply pumped from a well into settling tanks and distributed by iron pipes. Tile drains leading to cesspools; no other sewerage.

Huachuca Fort, Ariz.—Latitude, 31° 33′; longitude, 110° 16′. In Cochise County, 7 miles from Huachuca siding, on the New Mexico and Arizona Railroad. Post-office

and telegraph station at the post. Daily buckboard from Huachuca siding. Reservation, 70 square miles. Present garrison, 2 troops cavalry and 5 companies infantry. Accommodations for 22 officers and 420 men; 6 barracks, and 1 band barrack. Two sets of officers' quarters in course of construction. Water supply piped from springs 3 miles distant to distributing reservoirs. Sewer system.

Independence, Fort, Mass.—Latitude, 42° 21′; longitude, 71°. On Castle Island, Boston Harbor, 3 miles from Boston, which is the post-office, telegraph, and railroad station. Government tug from Boston. Reservation, 12 acres. Cession of jurisdiction by State act of June 25, 1798. Not garrisoned. In charge of ordnance sergeant. Accommodations for 1 field and 6 company officers in cottages outside the fort, and for 80 men, 2 batteries, in casemates.

Jackson Barracks, La.—Latitude, 29° 57′; longitude, 90°. On the east bank of the Mississippi River, 6 miles below the city of New Orleans, which is the post-office and railroad station. Telegraph station, Slaughter house, St. Bernard Parish, La. Street cars from New Orleans pass the post. Reservation, 87.87 acres. Cession of jurisdiction believed to be covered by general State act of July 6, 1882. Present garrison, 2 companies infantry. Accommodations for 11 officers and 96 men; 4 barrack buildings accommodate 24 men each. Water supply pumped from the Mississippi River. Surface drainage by brick-lined drains.

Jackson, Fort, La.—Latitude, 29° 21′; longitude, 89°26′. Seventy-three miles from New Orleans. Post-office, Neptune, La. Telegraph station, Quarantine, La. Steamer triweekly from New Orleans. Reservation, 740.97 acres. Cession of jurisdiction by State act of June 1, 1846. Not garrisoned. In charge of ordnance sergeant.

Jefferson Barracks, Mo.—Latitude, 38° 28′; longitude, 90° 17′. In south St. Louis, on the Mississippi River. Post-office, telegraph, and railroad station at the post. Reservation, 1,379.06 acres, with 118.15 acres in adverse possession by different parties. No cession of jurisdiction. Recruiting depot. Accommodations for 14 officers and 437 men; 5 barracks. One double barrack and two double sets officers' quarters in course of construction. Water supply from St. Louis water works. Sewer system.

Jefferson, Fort, Fla.—Latitude, 24° 38′; longitude, 82° 52′. Garden Key, 71 miles from Key West. Post-office and telegraph station, Key West, Fla. Boat from Key West to post. Reservation, 5 acres. Cession of jurisdiction believed to be covered by general State act of July 24, 1845, though there is no record of any formal deed of cession by the governor (see XIII Op. Att. Gen., 411). Not garrisoned. In charge of ordnance sergeant. There are two substantial three-story brick buildings; one for officers' quarters, 63 rooms; the other for soldiers, 50 rooms.

Johnston, Fort, N. C.—Latitude, 34°; longitude, 78° 5′. Twenty-six miles from Wilmington. Post-office and telegraph station, Southport, N. C. Steamer daily from Wilmington. Reservation, 43,560 square feet. Cession of jurisdiction by State acts of July 17, 1794, December 8, 1804, December 17, 1807, and December 19, 1809. Not garrisoned. In charge of ordnance sergeant. One set of officers' quarters used as signal office. No barracks.

Keogh, Fort, Mont.—Latitude, 46° 23′; longitude, 105° 57′. On the Northern Pacific Railroad, 747 miles from St. Paul. Post-office, telegraph, and railroad station at the post. Reservation about 90 square miles. Cession of jurisdiction by constitution of Montana. Present garrison, 2 troops cavalry and headquarters and 7 companies infantry. Accommodations for 27 officers and 535 men; 9 barracks. Water supply pumped from a well near the Yellowstone River and distributed through iron pipes by direct pressure. Partial sewer system.

Key West Barracks, Fla.—Latitude, 24° 33′; longitude, 81° 48′. Post-office, telegraph station, and boat landing, Key West. Reservation, 22.79 acres. Cession of jurisdiction by State acts of July 8, 1845, and July 24, 1845. Not garrisoned. In charge of ordnance sergeant. Five sets of officers' quarters and 2 barracks. Four sets quarters and 1 barrack, in good condition. Others need repairs.

Knox, Fort, Me.—Latitude, 44° 34′; longitude, 68° 48′. In Hancock County, three-fourths of a mile from Bucksport by ferry. Post-office, Prospect Ferry, Me. Telegraph and railroad station, Bucksport. Reservation, 150 acres. Cession of jurisdiction by State act of March 12, 1844. Not garrisoned. In charge of ordnance sergeant. No quarters for men or officers.

Lafayette, Fort, N. Y. Harbor.—Latitude, 40° 37′; longitude, 74° 2′. Six miles from Brooklyn. Post-office and telegraph station, at the post. City railroad from Brooklyn. Reservation about 2 acres. Cess on of jurisdiction by State acts of March 20, 1807, March 18, 1808, and (as to water-covered land) May 7, 1880, and commissioner's deed of November 6, 1812. Not garrisoned. In charge of commanding officer at Fort Hamilton, N. Y.

Leavenworth, Fort, Kans.—Latitude, 39° 21′; longitude, 94° 55′. On the Missouri River, above and adjoining Leavenworth City. Post-office, telegraph, and railroad tation, at the post. Post reservation, about 5,960 acres; timber reservation acres

the river in Missouri, of 939.37 acres. Cession of jurisdiction by State acts of February 23, 1872, and February 22, 1875. But as to timber reservation, no cession. Present garrison, 4 troops cavalry, headquarters, and 8 companies infantry. Accommodations for 88 officers and 685 men; 11 barracks. Sixteen sets officers' quarters (bachelors') in course of construction. Water supply, Fort Leavenworth Water Company.

Leavenworth Military Prison, Kans.—Latitude, 39° 21′; longitude, 94° 55′. On the Fort Leavenworth Reservation. Post-office, telegraph, and railroad station, Fort Leavenworth.

Livingston, Fort, La.—Latitude 29° 15′; longitude, 90°. On Grand Terre Island. Post-Office, Grand Isle, La. Telegraph and railroad station, New Orleans. Steamer weekly from New Orleans; distance, 95 miles. Reservation, 610 acres. Cession of jurisdiction by State acts of March 10, 1834, and governor's deed of May 14, 1834. Not garrisoned. Turned over to Quartermaster Department in 1888, and now in charge of light-house keeper.

Logan, Fort, Colo.—Latitude, 39° 40′; longitude 105° 1′. On Bear Creek, 7½ miles south of Denver. Post-office, telegraph, and railroad station (Denver and Rio Grande) at the post. Reservation, 640 acres. Cession of jurisdiction by State act of March 22, 1887, and governor's deed of June 14, 1887. Present garrison, headquarters and 6 companies infantry. Accommodations for 24 officers and 384 men; 8 barracks. Water supply pumped from an artesian well to a reservoir and distributed through iron pipes. Sewer system.

Mackinac, Fort, Mich.—Latitude, 45° 51′; longitude, 84° 41′. On Mackinac Island, in the straits of Mackinac, overlooking the village of Mackinac. Post-office and telegraph station, Mackinac Island, Mich. Boat from Mackinaw City (11 miles) and from St. Ignace (5 miles). Steamboats from Chicago, Detroit, and other lake ports arrive daily. Military reservation proper, 103.41 acres. No special cession of jurisdiction. Cession, perhaps, embraced in general provisions of State act of March 24, 1874. National park, under the immediate control of military authorities, 821 acres. Present garrison, 2 companies infantry. Accommodations for 7 officers and 92 men; 1 barrack for 2 companies. Water supply pumped from springs to reservoir and distributed by iron pipes. Sewer system.

Macomb, Fort, La.—Latitude, 30° 5′; longitude, 89° 51′. One and a half miles from Chef Menteur. Post-office, Lee, La. Telegraph station, Chef Menteur, La. Reservation, 1,364.71 acres. Jurisdiction believed to be ceded by State act of June 1, 1846. Not garrisoned. In charge of ordnance sergeant.

Macon, Fort, N. C.—Latitude, 30° 41′; longitude, 76° 40′. Two miles from Morehead City. Post-office, Beaufort, N. C. Telegraph and railroad station, Morehead City. Reservation, 1½ square miles. Cession of jurisdiction by State act of December 17, 1807. Not garrisoned. In charge of ordnance sergeant. Four sets of officers' quarters, and 2 sets of noncommissioned officers' quarters, all in bad condition.

Madison Barracks, N. Y.—Latitude, 43° 57′; longitude, 76° 15′. On the south shore of Black River Bay, about 10 miles from Lake Ontario, at the town of Sacketts Harbor, which is the post-office, telegraph, and railroad station. Reservation, 39½ acres. In addition to which about 52 acres have recently been acquired under provision of act of March 2, 1889. Cession of jurisdiction by State act of May 12, 1892. Present garrison, headquarters and 6 companies infantry. Accommodations for 18 officers and 381 men; one barrack for 3 companies and one for 3 companies and band. Water supply pumped from the bay. Sewer system.

Marcy, Fort, N. Mex.—Latitude, 35° 41′; longitude, 105° 57′. Situated in the town of Santa Fé, which is the post-office, telegraph, and railroad station. Reservation, about 17½ acres. Present garrison headquarters and 2 companies. Accommodations for 9 officers and 123 men, 2 barracks. Water supply from Santa Fé Water and Improvement Company. Partial sewer system.

Marion, Fort, Fla.—Latitude, 29° 53′; longitude, 81° 17′. Situated in the town of St. Augustine, Fla., which is the post-office, telegraph, and railroad station. Reservation, about 22½ acres. No cession of jurisdiction. Not garrisoned. In charge of commanding officer St. Francis Barracks.

Mason, Fort, Cal.—Latitude, 37° 1′; longitude, 122° 20′. At Point San José or Black Point, on San Francisco Bay, within the limits of San Francisco. Post-office, Station A, San Francisco. Telegraph station at the post. Railroad station, San Francisco, distance, 3 miles. Street cars to post. Reservation, 55½ acres. No cession of jurisdiction. Present garrison, 1 company artillery. Accommodations for 6 officers and 66 men; 1 barrack. Water supply from the Spring Valley Water Company. Sewer system.

McClary, Fort, Me.—Latitude, 43° 5′; longitude, 70° 45′. On Kittery Point, Me., 4½ miles from Portsmouth, N. H. Post-office, telegraph, and railroad station, Kittery Point, Me. Reservation, 15 acres. Cession of jurisdiction by act of Massachusetts of March 12, 1808, of Maine of July 31, 1846. Not garrisoned. In charge of ordnance sergeant.

McHenry, Fort, Md.—Latitude, 30° 15′; longitude, 76° 35′. On Whetstone Point, in the city of Baltimore, which is the post-office, telegraph, and railroad station. Reservation, 34½ acres. Cession of jurisdiction by State acts of February 27, 1816, and March 31, 1838. Present garrison, 3 batteries of artillery. Accommodations for 13 officers and 174 men; 3 barracks; 3 sets of quarters within and 10 sets without the fort. Water supply from Baltimore City waterworks. Sewer system.

McIntosh, Fort, Tex.—Latitude, 27° 30′; longitude, 99° 29′. In Will County, on the Rio Grande, 1 mile from Laredo, which is the post-office, telegraph, and railroad station. Reservation, about 208 acres. Cession of jurisdiction by State act of December 19, 1849, and governor's deed of April 15, 1882. Present garrison, headquarters, 2 troops cavalry, and 1 company infantry. Accommodations for 12 officers and 184 men; 3 barracks. Water pumped from well on river bank to an elevated tank and distributed through iron pipes. Surface drainage.

McKinney Fort, Wyo.—Latitude, 44° 23′; longitude, 106° 46′. On Clear Fork of Powder River, at base of Big Horn Mountains, 148 miles from Douglas City, on Fremont, Elkhorn and Missouri Valley Railroad. One hundred and sixty miles from Custer Station, Mont., on Northern Pacific Railroad, and 90 miles from Moorcroft, Wyo., on Burlington and Missouri Railroad. Daily stage from each. Post-office and telegraph station at the post. Reservation, 39 square miles. No cession of jurisdiction. Present garrison, headquarters, 3 companies infantry, and 2 companies cavalry. Accommodations for 20 officers and 198 men; 4 barracks. Water pumped from Clear Fork of Powder River into a tank and distributed by pipes. Surface drainage. Post recommended for abandonment.

McPherson, Fort, Ga.—Latitude, 33° 48′; longitude, 84° 31′. Situated south of and 4 miles from the center of the city of Atlanta, Ga., which is the post-office, telegraph, and railroad station. Reservation, 236.41 acres. Cession of jurisdiction by State acts of September 14, 1885, and November 19, 1886. Present garrison, headquarters, and 8 batteries artillery. Accommodations for 30 officers and 404 men; 8 barracks. Water supply pumped from 2 nonflowing artesian wells to elevated tank and distributed by system of iron pipes. Sewer system.

Meade, Fort, S. Dak.—Latitude, 44° 25′; longitude, 103° 28′. In Meade County, 3 miles from Sturgis, on the Fremont, Elkhorn and Missouri Valley Railroad, and 797 miles from St. Paul. Post-office at the post. Telegraph and railroad station, Sturgis, S. Dak. Post reservation, about 12½ square miles. Wood and timber reservation of 27,293 acres. Cession of jurisdiction by constitution of South Dakota. Small addition to reservation purchased in 1889 for increasing water supply. Present garrison, headquarters and 8 troops cavalry. Accommodations for 25 officers and 566 men; 11 barracks. Water comes from 2 springs, and is pumped into a reservoir and distributed by iron pipes. Surface drainage.

Mifflin, Fort, Pa.—Latitude, 39° 53′; longitude, 75° 13′. On Mud Island, Delaware River, 5 miles from Philadelphia, which is the post-office, telegraph, and railroad station. Reservation, about 317 acres. Cession of jurisdiction by State act of April 15, 1795. Not garrisoned. In charge of ordnance sergeant.

Missoula, Fort, Mont.—Latitude, 46° 50; longitude, 114° 50′. On Bitter Root River, 1 mile from Bitter Root, on the Missouri and Bitter Root Valley branch of the Northern Pacific Railroad, 4 miles from Missoula, Mont., on the Northern Pacific Railroad, and 1,254 miles from St. Paul. Post-office at the post; telegraph and railroad (Northern Pacific) station, Missoula. Reservation, 640 acres, and 560 acres, not reserved, held by military occupancy. Post not on reservation. Wood and timber reserve, 1,677.41, 6 miles southeast of post. No cession of jurisdiction. Present garrison, headquarters and 3 companies infantry. Accommodations for 13 officers and 243 men; 4 barracks. Water supply pumped from Bitter Root River and distributed through pipes by direct pressure or from a tank. Surface drainage.

Monroe, Fort, Va.—Latitude, 37°; longitude, 76° 18′. Situated at Old Point Comfort, commanding the entrance to Hampton Roads. Post-office and telegraph station at the post. Steamers daily from Baltimore, Washington, Norfolk, and New York, and railroad (Chesapeake and Ohio) from Richmond. Reservation, about 267 acres. Cession of jurisdiction by State act of March 1, 1821, and governor's deed of April 8, 1871. But cession does not include the 15 acres in Elizabeth City County acquired February 12, 1841, for a pumping station. Present garrison, 6 batteries artillery. Accommodations for 49 officers, 14 in casemates, and 366 men; 1 barrack for 6 batteries. Three double sets officers' quarters in course of construction. Water supply pumped from a system of driven wells. Sewer system constructed by engineers considered defective. Act of March 2, 1889, appropriated $25,000 for a new sewer system, but no action has been taken so far as known to this office.

Montgomery, Fort, N. Y.—Latitude, 45°; longitude, 73° 20′. Situated on Rouses Point, N. Y., 191 miles from Albany, N. Y. Post-office, telegraph, and railroad station, Rouses Point, N. Y., 1½ miles from the post. Reservation, 600 acres. Cession of jurisdiction by State acts of March 31, 1815, April 21, 1818, and April 21, 1840, and governor's deed of May 15, 1818, and commissioner's deed of July 6, 1818. Not garrisoned. In charge of ordnance sergeant.

Morgan, Fort, Ala.—Latitude, 30° 14′; longitude, 88°. Situated on Mobile Point, 30 miles from Mobile. Post-office, Herndon, Ala. Telegraph station at the post. Steamer from Mobile. Reservation, 322.42 acres. No cession of jurisdiction. Not garrisoned. In charge of ordnance sergeant.

Moultrie, Fort, S. C.—Latitude, 32° 45′; longitude, 79° 51′. On Sullivans Island, 5 miles from Charleston. Post-office, Moultrieville, S. C. Telegraph and railroad station, Charleston, S. C. No reservation; four acres held. Cession of jurisdiction by State acts of December 19, 1805, December 18, 1846, and December 19, 1848. Not garrisoned. In charge of ordnance sergeant.

Mount Vernon Barracks, Ala.—Latitude, 31° 12′; longitude, 88° 2′. At the town of Mount Vernon, 28 miles north of Mobile. Post-office, telegraph, and railroad station, Mount Vernon, Ala., one-half mile from the post. Reservation, about 2,160 acres. Cession of jurisdiction by governor's deed of November 26, 1886, but deemed inadequate and ineffectual in view of section 21 of code of Alabama. Present garrison, three companies infantry. Accommodations for 11 officers and 124 men; 2 barracks. Water supply raised by steam pump from reservoir fed by springs and distributed by iron pipes. Sewer system.

Myer, Fort, Va.—Latitude, 38° 53′; longitude, 77° 3′. On Arlington Heights, 4 miles from the Capitol building, Washington. Post-office and railroad station, Washington, D. C. Telephone to post. Reservation for the post, 186 acres, a portion of the Arlington estate, the area of which is 1,073.4 acres. Cession of jurisdiction by State acts of February 23, 1884, and March 25, 1884. Present garrison, 4 troops of cavalry. Accommodations for 14 officers and 289 men; 4 barracks. Sewer system. Water supply from 3 dug and 12 driven wells.

Newport Barracks, Ky—Latitude, 39° 5′; longitude, 84° 29′. On the south bank of the Ohio River, at the junction of the Licking River, in the city of Newport. Post-office, telegraph, and railroad station, Newport. Reservation, about 6 acres. Cession of jurisdiction by State act of February 29, 1888. Present garrison, 1 company infantry. Accommodations for 5 officers and 62 men; 1 barrack for 2 companies; originally quarters for 10 officers and 2 companies infantry. Sale of old post authorized by Congress. Water supply, Newport City waterworks. Sewer system.

Niagara, Fort, N. Y.—Latitude, 43° 18′; longitude, 79° 8′. On the Niagara River, at its junction with Lake Ontario, 14 miles below Niagara Falls, 7 miles from Lewistown, N. Y., and 36 miles from Buffalo, N. Y. Post-office, Youngstown, N. Y. Telegraph and railroad station, Lewistown, N. Y. Reservation, 288¼ acres. Cession of jurisdiction by State act of April 21, 1840, and commissioner's deed of July 8, 1846. Present garrison, headquarters, 3 companies infantry. Accommodations for 13 officers and 244 men; 4 barracks. Water supply pumped from the Niagara River and distributed through a system of iron pipes. Improvement in water-supply system and a new sewer system in course of construction and nearly completed.

Niobrara, Fort, Nebr.—Latitude, 42° 53′; longitude, 100° 46′. On the Niobrara River, 4½ miles from Valentine, on the Fremont, Elkhorn and Missouri Valley Railroad. Post-office and telegraph station at the post. Reservation, 54 square miles, 452 acres. Cession of jurisdiction by State act of March 29, 1889. Present garrison, headquarters, 6 companies cavalry and 2 infantry. Accommodations for 27 officers and 461 men; 9 barracks. Water comes from springs and is pumped into tanks and distributed by pipes. Sewer system in course of construction.

Oglethorpe, Fort, Ga.—Latitude, 32° 2′; longitude, 80° 34′. On the west bank of the Savannah River, 3 miles below the city of Savannah, which is the post-office, telegraph, and railroad station. Reservation 200 feet on the Savannah River, running back 345 feet. Cession of jurisdiction by State act of December 22, 1808. Not garrisoned. In charge of ordnance-sergeant.

Oklahoma, Camp at, Okla.—Latitude, 35° 27′; longitude, 97° 30′. On Southern Kansas branch of Atchison, Topeka and Santa Fe Railroad, 32 miles from Fort Reno. Post-office, telegraph, and railroad station, Oklahoma City. Reservation, 160 acres. Present garrison, 1 company infantry. Accommodations for 4 officers and 71 men; 1 barrack. No water or sewer system. To be turned over to Interior Department.

Omaha, Fort, Nebr.—Latitude, 41° 20′; longitude 96°. Within the limits of the city of Omaha. Post-office and telephone at the post. Railroad station, Omaha. Reservation (old), 82.50 acres. Present garrison, all of Second Infantry. Accommodations for 26 officers and 487 men; 10 barracks. Water supply from Omaha City waterworks. Partial sewer system. Act of July 23, 1888, authorized sale of Fort Omaha and purchase of a new site of not less than 320 nor more than 640 acres. (See Fort Crook.)

Omaha Depot, Nebr.—Latitude, 41° 20′; longitude, 96°. In Omaha City. Reservation, 5 acres.

Ontario, Fort, N. Y.—Latitude, 43° 27′; longitude, 76° 30′. On the Oswego River, at its junction with Lake Ontario, adjoining the city of Oswego, which is the post-office, telegraph, and railroad station. Reservation about 76 acres. Cession of jurisdiction by State act of April 25, 1839, and commissioner's deed of August 15, 1839.

Present garrison, 1 company infantry. Accommodations for 4 officers and 63 men; 1 barrack. Water supply from Oswego waterworks. Sewer system.

Pembina, Fort, N. Dak.—Latitude, 48° 57′; longitude, 97° 12′. On the Red River of the North, 2 miles from Pembina, on the Winnipeg branch of the Northern Pacific Railroad. Post-office, telegraph, and railroad station, Pembina. Reservation, about 1,920 acres. Cession of jurisdiction by constitution of North Dakota. Present garrison, 1 company infantry. Accommodations for 7 officers and 104 men; 2 barracks. Water supply pumped to tank and distributed through iron pipes. Surface drainage.

Pena Colorado, Camp, Tex.—Latitude, 30° 15′; longitude, 103° 13′. In Presidio County, 4 miles from Marathon, on Galveston, Harrisburg and San Antonia Railroad. Post-office, telegraph, and railroad station, Marathon. Reservation rented by the United States. Present garrison, 1 troop cavalry. Accommodations for 4 officers and 41 men; 1 barrack.

Phœnix, Fort, Mass.—Latitude, 41° 38′; longitude, 70° 55′. At Fort Point, Mass. Post-office, telegraph, and railroad station, Fairhaven, Mass. Reservation, 2 acres. Not garrisoned. In charge of ordnance-sergeant.

Pickens, Fort, Fla.—Latitude, 30° 19′; longitude, 87° 17′. On Santa Rosa Island, 10 miles from Pensacola. Post-office, Warrington, Fla. Telegraph station, Pensacola navy-yard. Railroad station, Pensacola. Reservation, all of Santa Rosa Island (unsurveyed). No cession of jurisdiction. Not garrisoned. In charge of ordnance-sergeant.

Pike, Fort, La.—Latitude, 30° 11′; longitude, 89° 38′. On Petites Coquille Island, 7 miles from Lake Catherine station, on the Louisville and Nashville Railroad. Post-office at the post. Telegraph station, Millers Bayou, La. Reservation, all the public land within 1,200 yards of the post. Cession of jurisdiction by State act of June 1, 1846. Not garrisoned.

Pittsburg, Pa.—Latitude, 40° 32′; longitude, 80° 5′. Reservation part of old site of Fort Fayette. Fronts over 100 feet on Penn street, running back to the Allegheny River. Sale authorized by act of May 21, 1890. (Public No. 125.) Depot quartermaster, Washington, D. C., directed to take the necessary action.

Pilot Butte, Camp, Wyo.—Latitude, 41° 12′; longitude, 111°. Post-office, telegraph, and railroad station, Rock Springs, Wyo. No reservation. Present garrison, 1 company infantry. Accommodations for 6 officers and 96 men; 2 barracks. Buildings belong to and are kept in repair by the Union Pacific Railroad Company. Water furnished by Green River Water Company and paid for by the Union Pacific Railroad Company.

Plattsburg Barracks, N. Y.—Latitude, 44° 41′; longitude, 73° 25′. On west shore of Lake Champlain, at the town of Plattsburg. Post-office, telegraph, and railroad station, Plattsburg, N. Y. Reservation about 173 acres. Cession of jurisdiction by State act of March 6, 1890. In addition to which 506.35 acres have recently been acquired under the provisions of act of February 7, 1891. Present garrison, 1 company, infantry. Accommodations for 4 officers and 100 men; 1 barrack for 2 companies. Water supply, Plattsburg waterworks. Sewer system.

Popham, Fort, Me.—Latitude, 43° 50′; longitude, 69° 55′. On Hunniwell Point, 12 miles by water and 15 by land from Bath. Post-office, Popham Beach, Me. Telegraph and railroad station, Bath. Reservation, 2½ acres. Cession of jurisdiction by State act of April 7, 1857 and January 9, 1862. Not garrisoned. In charge of ordnance-sergeant.

Poplar River, Camp, Mont.—Latitude, 48° 6′; longitude, 105° 12′. Situated at Montana, Poplar River station of Great Northern Railroad, 730 miles from St. Paul. Post-office, telegraph, and railroad station, Poplar River Station. On Indian Reservation. Cession of jurisdiction by constitution of State of Montana. Present garrison, 2 companies infantry. Accommodations for 6 officers and 102 men; 2 barracks. No water system.

Porter, Fort, N. Y.—Latitude, 42° 53′; longitude, 78° 52′. On the right bank of the Niagara River, within the limits of the city of Buffalo, which is the post-office, telegraph, and railroad station. Reservation, about 28½ acres. Cession of jurisdiction by State acts of April 21, 1840, February 28, 1842, April 12, 1842, February 9, 1844, and governor's deed of October 17, 1853. Present garrison, 2 companies infantry. Accommodations for 9 officers and 124 men; 1 barrack for 2 companies. Water supply, Buffalo City waterworks. Sewer system.

Preble, Fort, Me.—Latitude, 43° 3′; longitude 70° 14′. On the east side of Portland Harbor, at Spring Point, 2 miles from the city of Portland, which is the post-office, telegraph, and railroad station. Reservation, about 24 acres. Cession of jurisdiction by act of Massachusetts of March 12, 1808, and general act of Maine of February 18, 1871. Present garrison, 1 battery artillery. Accomodations for 5 officers and 65 men; 4 barracks, one used as post hospital and one as storehouse. Water supply pumped from springs. Sewer system.

Presidio of San Francisco, Cal.—Latitude, 37° 47′; longitude, 122° 26′. In the northwestern suburbs of San Francisco. Post-office and telegraph station at the post.

Railroad station, San Francisco, 4½ miles from the post. City railway to the post. Reservation, 1,465.81 acres. No cession of jurisdiction. Present garrison, headquarters, 6 batteries of artillery, 1 troop of cavalry. Accommodations for 39 officers and 562 men; 12 barracks. Water supply from the Spring Valley Water Company, pumped by steam power and windmills to reservoir. Sewer system.

Pulaski, Fort, Ga.—Latitude, 32° 2′; longitude, 80° 34′. On Cockspur Island, 14 miles from Savannah, which is the post-office, telegraph, and railroad station. Reservation not surveyed. Cession of juri diction by State acts of December 22, 1808, and December 27, 1845. Not garrisoned. In charge of ordnance-sergeant.

Randall, Fort, S. Dak.—Latitude, 43° 1′; longitude, 98° 35′. On the Missouri River, opposite White Swan, 24 miles from Armour, S. Dak., and 45 miles from Springfield, on the Chicago, Milwaukee, and St. Paul Railroad. Post-office at the post. Telegraph and railroad station, Armour. Stage and mail daily, except Sunday, from Armour. Communication with Running Water, S. Dak. (36 miles), by wagon transportation. Reservation, about 144 square miles. Cession of jurisdiction by constitution of South Dakota. Present garrison, 2 companies infantry. Accommodations for 14 officers and 244 men; 5 barracks. Water for domestic purposes pumped from the river and distributed by water wagons. Water for other purposes supplied from artesian well. Surface drainage.

Red Bank, N. J.—Latitude, 40° 25′; longitude, 74° 1′. On east shore of Delaware River, 8 miles below Philadelphia. Reserve, 100 acres. Cession of jurisdiction by State act of March 12, 1873.

Reno, Fort, Okla.—Latitude, 35° 35′; longitude, 98° 1′. On the North Fork of the Canadian River, 32 miles from Oklahoma Station, on the Atchison, Topeka and Santa Fe Railroad. Post-office and telegraph station at the post. Daily stage from El Reno, Okla., on Chicago, Rock Island and Pacific Railroad, 5¼ miles from the post. Reservation, 9,493 acres, and wood reserve of 9 square miles. Present garrison, headquarters, 6 companies cavalry and 1 company infantry. Accommodations for 18 officers and 394 men; 7 barracks. Water supply pumped from North Fork of the Canadian River into wooden tanks and distributed through iron pipes. The water is generally muddy and alkaline. For domestic purposes for the officers, water is hauled from Caddo Springs. Artesian well now being sunk. Sewer system.

Riley, Fort, Kans.—Latitude, 39° 4′; longitude, 96° 47′. On Kansas River, 3½ miles from Junction City, on the Missouri, Kansas and Texas Railroad. Post-office, telegraph, and railroad stations at the post. Reservation, 19,899.22 acres. Cession of jurisdiction by State acts of February 23, 1872, and February 14, 1889. Present garrison, headquarters, 8 troops cavalry and 3 batteries artillery. Accommodations for 39 officers and 736 men; 14 barracks. Water pumped from 8 Wagner tubular wells to reservoir and distributed by a system of iron pipes. Sewer system.

Ringgold, Fort, Tex.—Latitude, 26° 23′; longitude, 98° 47′. On the Rio Grande, 23 miles from San Miguel, on Mexican National Railroad. Post-office, Rio Grande City, Tex. Telegraph station at the post. Stage from Brownsville, 117 miles; from Pena, 76 miles, on Texas Midland Railroad, and from San Miguel, Mexico. Reservation, 350 acres. Cession of jurisdiction by State act of December 19, 1849, and governor's deed of April 14, 1882. Present garrison, 1 company infantry and 2 troops cavalry. Accommodations for 11 officers and 203 men; 4 barracks. Water supply is pumped from the Rio Grande to reservoirs and distributed through pipes. Sewer system.

Robinson, Fort, Nebr.—Latitude, 42° 40′; longitude, 103° 28′. On White River, on line of Fremont, Elkhorn and Missouri Valley Railroad. Post-office, telegraph, and railroad station at the post. Post reserve, 20 square miles. Wood and timber reserve, 16 square miles. Cession of jurisdiction by State act of March 29, 1889. Present garrison, headquarters, 6 troops cavalry and 2 companies infantry. Accommodations for 35 officers and 540 men; 10 barracks. Water pumped from spring to an elevated tank and distributed by iron pipes. Sewer system.

St. Francis Barracks, Fla.—Latitude, 29° 53′; longitude, 81° 17′. Southeast of and adjoining St. Augustine, Fla., near the Matanzas River. Post-office, telegraph, and railroad station, St. Augustine. Reservation proper, about 5½ acres. In addition to which two islands in the Matanzas River were reserved by Executive authority of May 31, 1892, containing 1.96 and 0.04 acres respectively. Present garrison, headquarters, and 2 companies infantry. Accommodations for 9 officers and 99 men; 3 barracks. Water supply raised from an artesian well by hydraulic ram; 5 cisterns also in use. Sewer system.

St. Louis Arsenal, Mo.—Latitude, 38° 28′; longitude, 90° 17′. In the city of St. Louis, on the Missouri River. Reservation, 31.8 acres. St. Louis clothing depot. Water supply from city of St. Louis waterworks.

St. Philip, Fort, La.—Latitude, 29° 25′; longitude, 89° 30′. Post-office, Neptune, La.; telegraph station, Quarantine, La. Steamer triweekly from New Orleans, 73 miles, and from Bohemia, on New Orleans and Gulf Railroad; distance, 25 miles. Reservation, 640 acres. Cession of jurisdiction by State act of June 1, 1846. Not garrisoned. In charge of ordnance-sergeant.

Sam Houston, Fort, Tex.—Latitude, 29° 27′; longitude, 98° 28′. In Bexar County, 1 mile north of San Antonio, which is the post-office, telegraph, and railroad station. Reservation, 472.21 acres. Cession of jurisdiction by State act of December 19, 1849, and governor's deeds of June 23, 1870, June 4, 1883, August 17, 1883, and April 19, 1887. Present garrison, 2 troops cavalry, 2 batteries artillery, and headquarters and 6 companies infantry. Accommodations for 27 officers and 742 men; 12 barracks. Additional quarters for 15 officers at department headquarters. Water supply, San Antonio Water Company. Drainage by means of a system of vitrified pipes.

San Carlos, Ariz.—Latitude, 33° 10′; longitude, 110° 25′. On the Gila River, within the limits of the White Mountain Indian Reservation, 102 miles from Bowie and 106 miles from Wilcox on the Southern Pacific Railroad. Post-office and telegraph station at the post. Daily stage, except Sunday, from Bowie, via Fort Thomas. Present garrison, 1 troop of cavalry. Temporary quarters for 12 officers. Accommodations for 180 men; 4 tents on frames. Water supply pumped from well into tanks and distributed through pipes. Natural drainage.

San Diego Barracks, Cal.—Latitude, 32° 43′; longitude, 117° 9′. In city of San Diego, Cal. Post-office, telegraph, railroad station, and boat landing, San Diego, Reservation, 2 blocks, 200 by 300 each, and wharf lot, 75 by 1,000. No cession of jurisdiction. Present garrison, 1 company infantry; accommodations for 52 men, 1 barrack. Officers' quarters rented in San Diego. Water supply from San Diego Water Company. Sewer system connected with city sewers.

Sandy Hook, Fort at, N. J.—Latitude, 40° 25′; longitude, 74° 1′. Post-office, New York City; distance, 22 miles. Telegraph, railroad station, and steamboat landing at Sandy Hook; distance, 2 miles. Reservation, about 1,366 acres. Cession of jurisdiction by State act of March 12, 1886. Not garrisoned. In charge of ordnance sergeant.

San Juan Island, Wash.—Latitude, 48° 37′; longitude, 123°. Reservation, about 640 acres.

San Pedro, Cal.—Latitude, 33° 40′; longitude, 118° 40′. In San Pedro Bay. Reservation, 44.25 acres, more or less.

Scammel, Fort, Me.—Latitude, 43° 39′; longitude, 79° 13′. In Portland Harbor, 2 miles from Portland, which is the post-office, telegraph, and railroad station. Reservation, 11 acres. Cession of jurisdiction by act of Massachusetts of March 12, 1808. Not garrisoned. In charge of ordnance sergeant.

Schuyler, Fort, N. Y.—Latitude, 40° 49′; longitude, 73° 48′. On Throggs Neck, 3½ miles from Westchester, and 17 miles from New York City. Post-office, telegraph, and railroad station, Westchester, N. Y. Reservation, 52 acres. Cession of jurisdiction, none or doubtful. State act of March 31, 1815, apparently authorizes cession to be made by commissioner's deed, but no record of deed is found. State act of May 7, 1880, cedes as to water-covered lands only. Present garrison, 2 batteries artillery. Accommodations for 9 officers and 63 men; 1 barrack, 20 men in tents. Water supply from New York and Westchester Water Company. Sewer system.

Sequoia National Park, Cal. (Camp at Mineral King).—Post-office, Three Rivers, Cal. Telegraph station, Visalia, Cal. Private conveyance to camp from Exeter station, 48 miles, on Southern Pacific Railroad. Present garrison, 1 troop cavalry.

Sewall, Fort, Mass.—Latitude, 42° 30′; longitude, 70° 33′. Situated 1½ miles from Marblehead, which is the post-office, telegraph, and railroad station. Reservation, small tract and in litigation. Not garrisoned. In charge of town of Marblehead, Mass., by authority of act of Congress (Public No. 19 of 1890).

Sheridan, Fort, Ill.—Latitude, 42° 14′; longitude, 89° 30′. On Lake Michigan, 25 miles north of Chicago. Post-office, telegraph, and railroad station at the post. Reservation, 632¼ acres. Cession of jurisdiction by State act of June 6, 1887. Present garrison, headquarters, 1 company artillery, and 8 companies infantry. Accommodations for 43 officers and 724 men; 12 barracks. Water supply pumped from Lake Michigan into reservoir and distributed by a system of iron pipes. Sewer system.

Sherman, Fort, Idaho.—Latitude, 47° 42′; longitude, 116° 38′. On Cœur d'Alene Lake, at its outlet, Spokane River, one-half mile from the Cœur d'Alene branch of Northern Pacific Railroad. Post-office, Sherman; telegraph and railroad station, Cœur d'Alene, Idaho. Reservation, 682.65 acres. No cession of jurisdiction. Present garrison, headquarters, 1 troop cavalry, and 4 companies infantry. Accommodations for 18 officers and 264 men; 6 barracks. Water supply pumped from Spokane River. No sewer system.

Ship Island, Fort at, Miss.—Latitude, 30° 20′; longitude, 89° 7′. Situated 15 miles from Biloxi, which is on the Louisville and Nashville Railroad. Post-office, telegraph, and railroad station, Biloxi, Miss. Special boat to post. No cession of jurisdiction. Not garrisoned. In charge of ordnance sergeant.

Sidney, Fort, Nebr.—Latitude, 41° 9′; longitude, 102° 58′. On Lodge Pole Creek, adjoining the town of Sidney, Cheyenne County, on the Union Pacific Railroad. Post-office, telegraph, and railroad station, Sidney, Nebr. Post reservation, 1 square

mile. Timber reservation, 5 square miles. Cession of jurisdiction by State act of March 30, 1889. Present garrison, 1 company infantry. Accommodation for 15 officers and 245 men; 5 barracks. Water supply pumped from a well to a tank and distributed by iron pipes. Surface drainage.

Sill, Fort, Okla.—Latitude, 34° 40′; longitude, 98° 23′. On Medicine Bluff Creek, 65 miles from Henrietta, Tex., on the Denver and Fort Worth Railroad. Post-office and telegraph station at the post. Daily stage, except Sunday, from Henrietta, Tex., and from Chickaska, Ind. T., on the Chicago, Rock Island and Pacific Railroad, distance 39 miles. On Indian lands, 36 square miles reserved. In addition to which General Order 43, 1892, sets aside a wood reserve of 26,880 acres. Present garrison, 4 troops cavalry and 3 companies infantry. Accommodations for 20 officers, 8 companies; 4 double barracks. Water supply raised by steam pump from a reservoir fed by springs and distributed from tanks by a system of pipes. Sewer system.

Snelling, Fort, Minn.—Latitude, 44° 53′; longitude, 93° 11′. At the junction of the Minnesota and Mississippi rivers, on Chicago, Milwaukee and St. Paul Railroad, 7 miles from St. Paul, and 8 miles from Minneapolis by the course of the river. Post-office, telegraph, and railroad station at the post. Reservation, 1,531.21 acres. Cession of jurisdiction by act of April 24, 1889. Present garrison, headquarters and 8 companies infantry. Accommodations for 36 officers (1 additional at ordnance depot) and 486 men; 8 barracks. Water supply pumped from a spring by steam pump and distributed from reservoir by system of iron pipes. Sewer system.

Spokane, Fort, Wash.—Latitude, 47° 50′; longitude, 118° 18′. On the Spokane River, ¼ of a mile from its junction with the Columbia, near Miles, Wash., 25 miles from Davenport and 50 miles from Sprague, on Northern Pacific Railroad. Post-office and telegraph station, Miles, Wash. Daily stage, except Sunday, from Davenport. Reservation, 640 acres. Cession of jurisdiction by constitution of Washington. Present garrison, 4 companies infantry. Accommodations for 19 officers and 364 men; 6 barracks. Water supply pumped from Spokane River. Sewer system.

Stanton, Fort, N. Mex.—Latitude, 33° 30′; longitude, 105° 32′. On the Rio Bonito, Lincoln County, 8 miles from Lincoln and 100 miles from Carthage, on Atchison, Topeka and Santa Fé Railroad. Post-office and telegraph station at the post. Daily stage from Carthage. Reservation, 16 square miles. Present garrison, 1 troop cavalry and 1 company infantry. Accommodations for 13 officers and 292 men; 5 barracks. Water supply pumped from a deep well and distributed from a reservoir by iron pipes. Partial sewer system.

Stevens, Fort, Oregon.—Latitude, 46° 31′; longitude, 125° 1′. On Point Adams, Columbia River, 7 miles from Astoria, 105 from Portland. Post-office, telegraph station, Astoria, Oregon, telephone to post. Steamer daily from railroad station, Portland to Astoria, thence by steam tug daily, except Sunday, to post. Reservation, 640 acres. No cession of jurisdiction. Not garrisoned. Transferred to Engineer Department and in charge of ordnance sergeant. Four sets officers' quarters and one barrack.

Sully, Fort, S. Dak.—Latitude, 44° 20′; longitude, 100° 10′. On the Missouri River. 23½ miles from Pierre, on the Chicago and Northwestern Railroad. Post-office and telegraph station at the post. Railroad station, Pierre. Daily stage except Sunday to post. Reservation, about 27,000 acres. Cession of jurisdiction by constitution of South Dakota. Present garrison, 4 companies infantry. Accommodations for 13 officers and 203 men; 4 barracks. Water supply pumped from a drive-well gallery to a reservoir, and distributed through iron pipes. Surface drainage.

Sumter, Fort, S. C.—Latitude, 32° 45′; longitude, 79° 51′. In Charleston Harbor, 5 miles from Charleston. Post-office, Moultrieville, S. C. Telegraph and railroad station, Charleston. Reservation, about 125 acres. Cession of jurisdiction by State joint resolution of December 21, 1836. Not garrisoned. In charge of ordnance sergeant.

Supply, Fort, Ind. T.—Latitude, 36° 30′; longitude, 99° 30′. Fifteen miles from Woodward on the Southern Kansas Railroad. Post-office and telegraph station at the post. Railroad station Woodward. Daily stage to post. Post reservation, 36 square miles. Wood and water reservation, 27 square miles, all on Indian lands. Present garrison, headquarters, and 2 troops of cavalry, and 4 companies infantry. Accommodations for 17 officers and 390 men; 7 barracks. Water supply from springs on Water Cress Cañon. Sewer system.

Taylor, Fort, Fla.—Latitude, 24° 33′; longitude, 81° 49′. Near Whitehead Point, 1 mile from Key West, which is the post-office, telegraph station, and boat landing. Reservation, about 60 acres. Cession of jurisdiction by State acts of July 8 and July 24, 1845. Not garrisoned. In charge of ordnance sergeant.

Thomas, Fort, Ariz.—Latitude, 32° 51′; longitude, 109° 48. On the Gila River, 35 miles west of San Carlos. Post-office and telegraph station at the post. Daily stage, except Sunday, from Bowie Station, on Southern Pacific Railroad, distance 70 miles, and from Wilcox, 69 miles. Reservation, 10,487 acres. Accommodations for 11 officers and 96 men; 3 barracks. Water supply. Abandoned.

Thomas, Fort, Ky.—Latitude, 39° 5′; longitude, 84° 29.′ Three miles from Newport, on the highlands overlooking the Ohio River. Post-office, telegraph and railroad station, Newport. Reservation, 111 acres, 2 roods, 39 poles. Rifle range, 169 acres. Cession of jurisdiction by state act of February 29, 1888. Present garrison, headquarters and 6 companies of infantry. Accommodations for 21 officers and 288 men; 3 double barracks. Water supplied by Covington City waterworks. Sewer system.

Townsend, Fort, Wash.—Latitude 48° 7′; longitude, 122° 44.′ At the entrance to Puget Sound, 3 miles from Port Townsend, 66 miles from Seattle, and 93 from Tacoma, and 130 from Olympia. Post-office and telegraph station, Port Townsend. Reservation, 615.1 acres. Cession of jurisdiction by constitution of Washington. Present garrison, 2 companies infantry. Accommodations for 5 officers and 87 men, 2 barracks. Water supply pumped from springs by steam power. Natural drainage.

Trumbull, Fort, Conn.—Latitude, 41° 21′; longitude 72° 6.′ On the right bank of the Thames River, 1 mile below the city of New London, which is the post-office, telegraph, and railroad station. Reservation, 13½ acres. Cession of jurisdiction by act of June 9, 1842. Present garrison, 1 battery artillery. Accommodations for 8 officers and 71 men, 2 barracks. Water supply from New London city waterworks. Sewer system.

Union, Fort, N. Mex.—Latitude, 35° 54′; longitude, 105° 9′. In Moro County, 9 miles from Watrous, on the Atchison, Topeka and Santa Fe Railroad. Post reservation, 51½ square miles. Timber reservation, 53 square miles. Accommodations for 30 officers and 349 men; additional accommodations at arsenal for 3 officers and 1 troop cavalry. Water supply pumped by steam power. Natural drainage. The reservation is within the limits of the Moro grant, for which a land patent was issued to claimants in 1876. Not garrisoned. In charge of an enlisted man.

Vancouver Barracks, Wash.—Latitude, 45° 40′; longitude, 125° 32′. On the north bank of the Columbia River, 18 miles by water and 6 miles in a direct line from Portland. Post-office and steamboat landing at Vancouver. Reservation, 640 acres. Cession of jurisdiction by constitution of Washington. Present garrison, 1 troop cavalry, headquarters, and 6 companies infantry. Accommodations for 26 officers and 528 men; 10 barracks; additional accommodations for 14 officers and 2 noncommissioned officers at department headquarters and depot. Water supply pumped from an artesian well to a reservoir and distributed by gravity. Sewer system.

Wadsworth, Fort, N. Y. Harbor.—Latitude, 40° 37′; longitude, 74° 3′. On Staten Island, commanding the Narrows, entrance to New York Harbor. Post-office, Rosebank, Staten Island, N. Y. Telegraph and quarantine station, Clifton, Staten Island. Reservation, about 100 acres. Cession of jurisdiction by State acts of February 6, 1836, April 15, 1857, April 18, 1861, February 20, 1862, and (as to water-covered lands) by act of May 7, 1880, and by commissioner's deed of February 15, 1847. Present garrison, 3 batteries of artillery. Accommodations for 15 officers and 183 men. No barracks; batteries quartered in casemates. Water supply from Crystal Water Company. Sewer system.

Walla Walla, Fort, Wash.—Latitude, 46° 6′; longitude, 118° 24′. One mile from Walla Walla, on the Northern Pacific Railroad. Post-office, telegraph, and railroad station, Walla Walla, Wash. Reservation, about 613 acres. Cession of jurisdiction by constitution of Washington. Present garrison, headquarters and 4 troops cavalry. Accommodations for 16 officers and 260 men; 6 barracks. Water supply from springs distributed by gravity. Sewer system.

Warren, Fort, Mass.—Latitude, 42° 19′; longitude, 70° 59′. On Georges Island, in Boston Harbor, 7 miles from Boston. Post-office and telegraph station, Boston. Daily steamer. Reservation, the whole island, about 18 acres. Cession of jurisdiction by State act of February 7, 1846. Present garrison, 2 batteries artillery. Accommodations for 11 officers (8 in casemates) and 100 men in casemates. Water supply from 10 cisterns and four wells. Sewer system.

Washakie, Fort, Wyo.—Latitude, 42° 59′; longitude, 108° 54′. On the Little Wind River, 147 miles from Rawlings, on the Union Pacific Railroad. Post-office and telegraph station at the post. Daily stage from Rawlings. Reservation, 1,405 acres, on Indian lands. No cession of jurisdiction. Present garrison, 1 troops cavalry and 2 companies infantry. Accommodations for 9 officers and 158 men; 3 barracks. Water pumped to tank by steam power from south fork of Little Wind River, and distributed by iron pipes. No sewer system.

Washington Barracks, D. C.—Latitude, 38° 53′; longitude, 77° 3′. On Greenleaf Point, D. C. Post-office, telegraph, and railroad station, Washington, D. C. Reservation, about 69 acres. Cession of jurisdiction by State act of Maryland of December 19, 1791, ceding the District of Columbia to United States. Present garrison, headquarters and 6 batteries artillery. Accommodations for 26 officers and 312 men, 2 barracks for three batteries each. Water supply, Washington city waterworks, owned by United States. Sewer system.

Washington, Fort, Md.—Latitude, 38° 43′; longitude, 77° 6′. On the Potomac River, 13 miles from Washington, D. C. Post-office at the post. Telegraph and railroad station, Alexandria, Va. Steamboat from Washington. Reservation, about 50 acres. Cession of jurisdiction by State act of April 11, 1874. Not garrisoned. In charge of ordnance sergeant.

Wayne, Fort, Mich.—Latitude, 42° 23′; longitude, 82° 58′. On Detroit River, 3½ miles from city hall in Detroit, which is the post-office and telegraph station. City railway to the post. Reservation, about 63 acres. Cession of jurisdiction by State act of February 9, 1842. Present garrison, headquarters, and 4 companies infantry. Accommodations for 15 officers and 231 men; one barrack for 5 small companies. Water supply from Detroit city waterworks. Sewer system.

West Point, N. Y.—Latitude, 41° 23′; longitude, 74° 41′. On the west bank of the Hudson River, 51 miles above New York City. Post-office, telegraph, and railroad station at the post. Reservation, 2,330 acres. Cession of jurisdiction by State acts of March 2, 1826, May 15, 1875, May 25, 1876, May 15, 1888; and as to Round Pond and right of way, etc., for water supply by acts of April 21, 1879, June 14, 1880, and May 12, 1881. United States Military Academy. Accommodations for 50 officers and 312 men, 5 barracks. Present garrison, E, Engineer battalion and detachments. Water supply piped from springs by gravity and distributed from reservoir through iron pipes. Sewer system.

Whipple Barracks, Ariz.—Latitude, 34° 33′; longitude, 112° 27′. One mile from Prescott, Ariz. Post-office, Whipple; telegraph and railroad station, Prescott. Reservation, about 1,730 acres. Present garrison, headquarters, and 4 companies infantry. Accommodations for 20 officers and 203 men, 5 barracks. Water supply pumped from a well on Granite Creek to a reservoir and distributed by iron pipes. Sewer system.

Willets Point, N. Y.—Latitude, 40° 47′; longitude, 73° 47′. On the East River, 2½ miles from Whitestone, Queen's County, 17 miles from New York City. Post-office and telegraph station at the post. Railroad station, Whitestone, N. Y. Reservation about 136.35 acres. Cession of jurisdiction by State acts of April 15, 1857, and April 17, 1875. Engineer station. Accommodations for 29 officers and 400 men; 3 double barracks and 1 band barrack. Present garrison, headquarters, A, B, C, and D, Engineer battalion. Water supply from Flushing village waterworks. Sewer system.

Winfield Scott, Fort, Cal.—Latitude, 37° 49′; longitude, 122° 48′. Golden Gate, San Francisco, Cal. Post-office and railroad station, San Francisco. Telegraph station, Presidio of San Francisco. On the Presidio Reservation. Not garrisoned.

Wingate, Fort, N. Mex.—Latitude, 35° 29′; longitude, 108° 32′. Situated on Bear Spring, 3 miles from Wingate, on the Atlantic and Pacific Railroad. Post-office and telegraph station at the post. Reservation, 130 square miles. Present garrison, headquarters, 4 companies cavalry and 2 companies infantry. Accommodations for 22 officers and 400 men; 8 barracks. Water supply pumped from a spring into a reservoir and distributed by iron pipes. Sewer system.

Winthrop, Fort, Mass.—Latitude, 42° 21′; longitude, 70° 1′. On Governors Island, Boston Harbor, 2 miles from Boston, which is the post-office, telegraph, and railroad station. Steamboat to post. Reservation about 60 acres. Cession of jurisdiction by State acts of June 25, 1798, March 12, 1808, and February 7, 1846. Not garrisoned. In charge of ordnance sergeant.

Wood, Fort, N. Y.—Latitude, 40° 41′; longitude, 74° 11′. On Bedloe Island, in New York Harbor, 3 miles from New York City, which is the post-office, railroad and telegraph station. Reservation about 12 acres. Cession of jurisdiction by State acts of February 15, 1800, and (as to water-covered lands) by act of May 7, 1880. Present garrison, 1 company infantry. Accommodations for 4 officers and 52 men, one barrack. Water supply, 4 cisterns. Sewer system.

Yates, Fort, N. Dak.—Latitude, 46° 11′; longitude, 100° 34′. Standing Rock, N. Dak., 58 miles from Mandan and 60 from Bismarck, on Northern Pacific Railroad. Post-office and telegraph station at post. Daily stage, except Sunday, from Bismarck. Reservation, 1 square mile, on Indian lands. Cession of jurisdiction by constitution of North Dakota. Present garrison, 4 companies infantry and 2 troops cavalry. Accommodations for 19 officers and 322 men, 6 barracks; in addition to which 3 barracks for Indian soldiers have recently been completed. Water pumped by steam-power from 22 drive wells to tank and distributed by iron pipes. Surface drainage.

Yellowstone, Fort, Wyo.—Latitude, 42° 51′; longitude, 102° 39′. On Beaver Creek, 8 miles from Cinnebar, on Yellowstone Park line of Northern Pacific Railroad. During winter trains run on this branch line Tuesdays, Thursdays, and Fridays. Post-office and telegraph station, Mammoth Hot Springs. Old reservation, 25 square miles; new, 22.5 acres, set aside by the Secretary of the Interior for use of military authorities. Exclusive jurisdiction reserved by act of Congress of July 10, 1890, admitting Wyoming. Present garrison, 2 troops cavalry. Accommodations for 2 offi-

cers and 60 men at old post; 1 barrack. Two double sets officers' quarters, 2 single sets noncommissioned officers' quarters and 1 cavalry barrack at new post. Water and sewer systems in course of construction.

Yerba Buena Island, Cal.—Latitude 37° 49′; longitude 122° 27′. Two and one-half mies northeast of San Francisco, Cal. Reservation, the whole island, about 120 acres. No cession of jurisdiction. General Order 59 of 1892, transfers reservation to the Engineer Department, for use and occupation as a torpedo station for the Pacific coast.

Yosemite National Park, Camp in, Cal.—Post-office and telegraph station, Wawona, Cal.; railroad station, Raymond, via Barenda station, on Southern Pacific Railroad, distance 40 miles; triweekly stage to camp. Present garrison, 1 troop of cavalry, in camp.

REPORT OF THE COMMISSARY-GENERAL OF SUBSISTENCE.

REPORT

OF THE

COMMISSARY-GENERAL OF SUBSISTENCE.

WAR DEPARTMENT,
OFFICE COMMISSARY-GENERAL OF SUBSISTENCE,
Washington, D. C., October 1, 1892.

SIR: I have the honor to submit the following report of the operations of the Subsistence Department for the fiscal year ending June 30, 1892:

RESOURCES AND EXPENDITURES.

The following statement exhibits the aggregate fiscal resources and expenditures of the department for the year mentioned and the balances at the close of the fiscal year:

RESOURCES.

Amounts in the Treasury to the credit of appropriations of the Subsistence Department on June 30, 1891, as follows:		
Commutation of rations to prisoners of war in rebel States and soldiers on furlough—certified claims, act March 2, 1889	$1,902.01	
Subsistence of the Army, 1890	344,570.10	
Subsistence of the Army, 1891	77,518.65	
Relief of sufferers from overflow of Mississippi River and its tributaries, joint resolution, April 25, 1890	582.79	
		$424,573.55
Amounts to credit of officers of the Subsistence Department, and of officers doing duty in the Subsistence Department, with the Treasurer, assistant treasurers, and designated depositaries, and in their personal possession on June 30, 1891, as follows:		
Subsistence of the Army, 1891	198,360.70	
Commutation of rations to prisoners of war in rebel States and soldiers on furlough:		
Certified claims, acts March 2, 1889, and April 4, 1890	909.67	
Certified claims, 1890, act April 4, 1890	1,551.83	
Certified claims, 1891, act August 30, 1890	6,996.30	
		207,818.50
Amounts refunded to the Treasury near close of fiscal year 1891, since carried to the credit of the appropriations, as follows:		
Subsistence of the Army, 1890	6,122.39	
Subsistence of the Army, 1891	7,322.45	
		13,444.84

RESOURCES—continued.

Amounts appropriated for the Subsistence Department for the fiscal year ending June 30, 1892, as follows:		
Subsistence of the Army, 1892, act of February 24, 1891	$1,745,000.00	
Commutation of rations to prisoners of war in rebel States and soldiers on furlough—certified claims, 1892, act of March 3, 1891	26,014.50	
		$1,771,014.5
Amounts collected from various sources and refunded to the appropriations of the Subsistence Department on the books of the Treasury during the fiscal year 1892, as follows:		
Subsistence of the Army, 1889, and prior years, transfer account	1,852.20	
Subsistence of the Army, 1889, and prior years	289.05	
Subsistence of the Army, 1890, transfer account	6.85	
Subsistence of the Army, 1890	32,939.60	
Subsistence of the Army, 1891, transfer account	1.26	
Subsistence of the Army, 1891	7,930.19	
Subsistence of the Army, 1892, transfer account	.25	
Subsistence of the Army, 1892	2,366.44	
		45,385.8
Amounts received by officers of the Subsistence Department and by officers doing duty in the Subsistence Department, from sales of subsistence stores to the following purchasers during the fiscal year 1892, and taken up for immediate disbursement under the following appropriations:		
Subsistence of the Army, 1891: Sales to enlisted men not previously reported	2,991.58	
Subsistence of the Army, 1892: Sales to officers, $306,212.29; to enlisted men and to companies, detachments, and hospitals, $451,980.55; to civil employés, $12,470.49; to Leavenworth Military Prison, $9,951.23; to Quartermaster's Department, $108.98; to headquarters of the Army, $7.59; to Indian agents, $82.87; to Engineer Department, $336.66; to G. A. R., $9.08; of surplus and condemned stores and property at auction, $1,338.37; of boxes, barrels, etc., $54.17; of garden seeds and agricultural implements, $123.65; total	782,675.93	
		785,667.5
Amounts taken up by officers doing duty in the Subsistence Department on account of reclamations for stores lost, damaged, etc., and in correction of errors in their accounts, etc., during the fiscal year 1892:		
Subsistence of the Army, 1891	198.90	
Subsistence of the Army, 1892	975.24	
		1,174.1
Amounts charged against officers still in service on account of funds and stores alleged to have been lost by theft, etc., and for which relief can only be obtained in the Court of Claims under sections 1059 and 1062, Revised Statutes, or from Congress, as follows:		
Subsistence of the Army, 1880	75.92	
Subsistence of the Army, 1886	2,455.82	
Subsistence of the Army, 1889	82.37	
		2,614.1
Total resources		3,251,692.9

EXPENDITURES.

Amounts expended on the books of the Treasury from the appropriations of th Subsistence Department during the fiscal year 1892, as follows:	
Subsistence of the Army, 1889, and prior years, transfer account	$8.36
Subsistence of the Army, 1890	532.51
Subsistence of the Army, 1891	34,711.52
Subsistence of the Army, 1892	1,277.59

EXPENDITURES—continued.

Amounts expended on the books of the Treasury, etc.—Continued.		
Relief of sufferers from overflow of Mississippi River and its tributaries, joint resolution of April 25, 1890.	$130.81	
Commutation of rations to prisoners of war in rebel States and soldiers on furlough:		
Certified claims, acts March 2, 1889, and April 4, 1890	588.25	
Certified claims, 1892, act March 3, 1891	14.50	
		$37,263.54
Amounts disbursed by officers of the Subsistence Department and officers doing duty in the Subsistence Department during the fiscal year 1892, as follows:		
Subsistence of the Army, 1891	48,490.69	
Subsistence of the Army, 1892	2,311,254.78	
Commutation of rations to prisoners of war in rebel States and soldiers on furlough:		
Certified claims, acts March 2, 1889, and April 4, 1890	115.50	
Certified claims, 1890, act April 4, 1890	219.75	
Certified claims, 1891, act August 30, 1890	4,950.03	
Certified claims, 1892, act March 3, 1891	24,493.63	
		2,389,524.38
Amounts dropped by officers doing duty in the Subsistence Department in correction of errors in their accounts during the fiscal year 1892:		
Subsistence of the Army, 1891	.02	
Subsistence of the Army, 1892	175.99	
		176.01
Amounts transferred on books of Treasury, act March 3, 1875 (18 Stat. L., 418):		
Subsistence of the Army, 1889 and prior years, transfer account	1,843.84	
Subsistence of the Army, 1890, transfer account	6.85	
Subsistence of the Army, 1891, transfer account	1.26	
Subsistence of the Army, 1892, transfer account	.25	
		1,852.20
Amounts carried to the surplus fund on June 30, 1892:		
Subsistence of the Army, 1889 and prior years	289.05	
Subsistence of the Army, 1890	383,099.58	
Commutation of rations to prisoners of war in rebel States and soldiers on furlough: Certified claims, acts March 2, 1889, and April 4, 1890	19.00	
		383,407.63
Total expenditures		2,812,223.76

BALANCES.

Amounts in the Treasury to the credit of appropriations of the Subsistence Department on June 30, 1892, as follows:		
Subsistence of the Army, 1891	$209,069.27	
Subsistence of the Army, 1892	50,589.88	
Relief of sufferers from overflow of Mississippi River and its tributaries, joint resolution, April 25, 1890	451.98	
Commutation of rations to prisoners of war in rebel States and soldiers on furlough: Certified claims, acts March 2, 1889, and April 4, 1890	1,294.76	
		$261,405.89
Amounts to credit of officers of the Subsistence Department and of officers doing duty in the Subsistence Department, with the Treasurer, Assistant Treasurers, and designated depositaries, and in their personal possession on June 30, 1892, as follows:		
Subsistence of the Army, 1892	167,591.56	
Commutation of rations to prisoners of war in rebel States and soldiers on furlough:		
Certified claims, 1891, act August 30, 1890	2,046.27	
Certified claims, 1892, act March 3, 1891	1,506.37	
		171,144.20

BALANCES—continued.

Amounts refunded to the Treasury near close of fiscal year 1892, but not carried to the credit of the appropriation by June 30, 1892, as follows:		
Subsistence of the Army, 1891	$2,009.81	
Subsistence of the Army, 1892	127.81	
Commutation of rations to prisoners of war in rebel States and soldiers on furlough:		
Certified claims, acts March 2, 1889, and April 4, 1890	794.17	
Certified claims, 1890, act April 4, 1890	1,332.08	
		$4,263.87
Amounts charged against officers still in service on account of funds and stores alleged to have been lost by theft, etc., and for which relief can only be obtained in the Court of Claims under sections 1059 and 1062, Revised Statutes, or from Congress, as follows:		
Subsistence of the Army, 1880	75.92	
Subsistence of the Army, 1886	2,455.82	
Subsistence of the Army, 1889	82.37	
Subsistence of the Army, 1891	41.16	
		2,655.27
Total balances		439,469.23

Statement of the average contract prices per pound (independent of quantities purchased) in each State and Territory for the fresh-beef supply in the fiscal years 1892 and 1893.

State or Territory.	Average price per pound.		State or Territory.	Average price per pound.	
	1892.	1893.		1892.	1893.
	Cents.	*Cents.*		*Cents.*	*Cents.*
Maine	11.50	9.50	Georgia	9.20	8.35
Massachusetts	9.73	8.45	Alabama	5.50	5.50
Rhode Island	9.25	8.90	Louisiana	6.50	6.37
Connecticut	13.25	9.00	Texas	5.68	5.48
New York	8.94	8.13	Tennessee	9.50	10.00
Pennsylvania	10.37	9.49	Kentucky	9.16	6.20
Maryland	8.50	7.30	Ohio	7.74	6.75
District of Columbia	7.20	4.48	Indiana	7.00	7.00
Virginia	6.82	5.66	Colorado	7.75	5.98
Illinois	7.00	6.25	Utah	8.35	4.95
Michigan	8.26	7.91	Montana	6.50	6.23
Missouri	7.99	5.48	California	7.34	6.90
Minnesota	5.45	5.00	Arizona	4.50	4.27
Nebraska	6.64	6.47	Washington	7.38	6.79
Kansas	4.69	4.40	Idaho	7.41	6.22
Indian Territory	4.10	3.99	Florida	10.93	11.68
Wyoming	7.60	6.27	Oklahoma	5.19	4.65
North Dakota	7.92	7.72	New Mexico	7.68	6.64
South Dakota	6.69	5.62			
			Average price	7.78	6.76

ADVERTISEMENTS AND CONTRACTS.

During the fiscal year ending June 30, 1892, 333 newspaper advertisements and 598 circulars and posters inviting proposals for subsistence supplies were reported to this office. There were also reported 3,873 contracts of various kinds for fresh meats, fresh vegetables, complete rations, and other subsistence supplies required for the Army.

SUPPLIES.

The supplies required to be furnished by the Subsistence Department are procured as near the place of consumption as practicable, taking into consideration quality, prices, and cost of transportation. As usual the

great markets of the country have been drawn upon for a large portion of the supplies. The fresh meat has been obtained from producers and dealers near the posts, and the same policy, where practicable to procure them of proper high quality, has been pursued as to flour and fresh vegetables.

ISSUES TO INDIANS.

Subsistence supplies were issued during the year to Indian agent at Hoopa Valley, Cal., to the value of $427.56; to destitute Piutes at Fort Bidwell, Cal., $24.88; to Apache Indian prisoners of war at Fort Wingate, N. Mex., $301.16; to enlisted Indians and their families, Troop L, Eighth Cavalry, $1,426.61; and to families of enlisted Indians as follows: Troop L, Third Cavalry, $46.44; Company I, Second Infantry, $387.50; Company I, Sixteenth Infantry, $43.21; Company I, Twenty-first Infantry, $10.96.

The above amounts have all been reimbursed to this Department by the Indian Bureau, except $11.60 of the value of the issues to families of enlisted Indians of Company I, Sixteenth Infantry.

Other issues were made to Indians as follows, for which no reimbursement has been requested or made: To White Mountain Apaches at Fort Apache, Ariz., $245.92; to Chiricahua Indian prisoners of war at Mount Vernon Barracks, Ala., $15,191.51; to Sioux Indian prisoners of war at Pine Ridge, S. Dak., $4,071.66; to Indian prisoners of various tribes at different posts, $523.32; to Indians visiting military posts, under Army Regulations 1395 and 1396, $734.33.

MISCELLANEOUS ISSUES AND EXPENDITURES.

Issues to the value of $84.86 were made to teachers of Indians at Mount Vernon Barracks, Ala., which amount has been reimbursed to this Department from the appropriation for contingencies of the Army.

Destitute citizens at various posts have been supplied during the year, upon the orders of commanding officers, with 549 incomplete rations.

Value of issues to Mexican prisoners at Forts Ringgold and McIntosh, Tex., $55.49.

Issues of 271 rations were made to Mexican guides.

For liquid coffee there was expended $6,737.67, being a decrease from the previous year of $2,639.48; for extra duty pay, $21,486.60, a decrease from previous year of $461.15; for advertising, $8,864.59, a decrease from previous year of $1,576.80; for cooked rations, $78,121.45, an increase over previous year of $12,932.85; for construction of new and repair of old ovens at posts, $6,867.24.

LOSSES OF STORES AND PROPERTY.

The value of stores reported lost by accident, by wastage in transportation, while in store, etc., during the year, for which no one has been held accountable, was $5,784.94. Losses in May and June of the previous fiscal year not included in last annual report amounted to $1,488.11.

Supplies lost in transportation during the year for which responsibility was fixed amounted to $1,096.42, of which $420.87 has been collected.

A quantity of stores and property was destroyed by fire on the night of May 19, 1892, at Fort Ringgold, Tex. The returns from that post for

the early part of May have not yet been received at this office, and the quantities and values of the articles destroyed are not yet known.

Sales of condemned and surplus supplies.

	Subsistence stores.		
	Condemned.	Surplus.	Total.
Original cost	$12,403.17	$134.08	$12,537.25
Amounts realized from sales	842.30	98.09	940.39
Loss	11,560.87	35.99	11,596.86

Of subsistence property, the amount realized from such as was condemned was $156.07; from such as became surplus, $241.91.

SALES ON CREDIT TO ENLISTED MEN.

Sales of subsistence stores to enlisted men on credit under Army Regulation 1413, during the past two fiscal years, and collections on account thereof, have amounted as follows:

Fiscal year.	Sales.	Collections.
1891	$13,207.14	$12,845.71
1892	21,420.40	21,215.83

ARMY COOKS AND BAKERS.

So fully am I convinced of the importance of the matter, that I again renew the recommendation so frequently made by the Commissary-General of Subsistence during the past ten years that some provision of law be made for the enlistment of cooks and bakers for the Army. Under the present system, temporary details of men are made, from time to time, from the companies to serve as cooks and bakers. The men so detailed are generally inexperienced, have little fondness or aptitude for the duty, and, from the temporary nature of the employment, take but little interest in it. It matters not how great in quantity or how good in quality the raw articles of food furnished by the Subsistence Department may be, the soldier will not be properly and wholesomely subsisted if they are not properly cooked. An important aid to good soldiering is good cooking. This can not be obtained without good cooks, and good cooks can not be obtained without education and adequate compensation. The interests of the Government and the well-being of the soldier require that provision be made by law for the special enlistment of men as cooks and bakers. Of cooks, there should be one added to the enlisted strength of each company, troop, or battery, and of bakers one for each garrisoned post. I earnestly commend the matter to the special attention of higher authority, as of the greatest importance to the health, comfort, and efficiency of the enlisted men of the Army.

COMMISSARY SERGEANTS.

The number of commissary sergeants in service at the commencement of the fiscal year was 111. During the year 10 new appointments were made; 2 died, 3 were discharged, and 7 were retired. The number in service at the close of the year was 109.

ACCOUNTS AND RETURNS DIVISION.

Accounts and returns on hand June 30, 1891, received, examined, etc., during the fiscal year ending June 30, 1892:

On hand June 30, 1891, accounts current	501	
Received during the year	2,390	
		2,891
On hand June 30, 1891, returns of subsistence stores	426	
Received during the year	1,629	
		2,055
On hand June 30, 1891, returns of subsistence property	135	
Received during the year	715	
		850
Examined during the year ending June 30, 1892:		
Accounts current (accompanied by 48,210 vouchers)		2,577
Returns of subsistence stores (accompanied by 36,872 vouchers)		1,806
Returns of subsistence property (accompanied by 1,800 vouchers)		810
On hand June 30, 1892, awaiting examination:		
Accounts current		314
Returns of subsistence stores		249
Returns of subsistence property		40

The accounts and returns were rendered by 462 officers.

In connection with the examinations, 4,837 letters and 2,170 indorsements were written and recorded and 112 papers copied.

CLAIMS DIVISION.

Act of July 4, 1864 (sec. 300 B, Rev. Stats.).—At the commencement of the year there were no claims on hand awaiting examination under section 3, act of July 4, 1864, and the acts amendatory thereof. During the year, however, one claim heretofore decided under this act was received back from the Third Auditor of the Treasury, accompanied by additional evidence. It was reëxamined in connection with said evidence, and returned to the Third Auditor recommended for payment in the sum of $77.80.

In connection with this class of claims, 118 reports were rendered upon requests therefor, made by the Department of Justice and Court of Claims.

Joint resolution of July 25, 1866, and third section of act of March 2, 1867.—At the beginning of the fiscal year there were on file in this office 294 claims for commutation of rations of Union soldiers while held as prisoners of war, and during the year 792 more were received, making a total of 1,086 claims of this class for examination.

Of these, 992 were examined and transmitted to the Third Auditor of the Treasury: 514 recommended for disallowance, and 478, amounting to $8,522.25, for payment.

In addition to these, 29 old claims were reëxamined and transmitted to the Third Auditor of the Treasury, of which 14 were recommened for disallowance, and 15, amounting to $281.75, for payment.

Miscellaneous claims.—There were at the commencement of the fiscal year 188 miscellaneous claims on hand, and during the year 940 more were received, making a total of 1,128 claims of this class for examination.

Of these, 1,017 were examined and transmitted to the Third Auditor of the Treasury: 752 recommended for disallowance, and 265, amounting to $6,071.54, for payment.

In addition, 376 old claims were reëxamined and transmitted to the Third Auditor of the Treasury, of which 179 were recommended for disallowance, and 197, amounting to $3,787.95, for payment.

Letters and indorsements.—In connection with these three classes of claims, 10,175 communications were sent out during the year.

DUTIES AND STATIONS OF OFFICERS OF THE SUBSISTENCE DEPARTMENT.

A roster of the officers of the Subsistence Department on June 30, 1892, showing their stations and duties on that date, is hereto appended.

Very respectfully, your obedient servant,

B. DU BARRY,
Commissary-General of Subsistence.

The SECRETARY OF WAR.

Roster of Subsistence Department, U. S. Army, June 30, 1892.

Name, and rank in the Department.	Rank by brevet.	Duty and station.
COMMISSARY-GENERAL OF SUBSISTENCE.		
Brigadier-General.		
Beekman Du Barry		Commissary-General of Subsistence.—Washington, D. C.
ASSISTANT COMMISSARIES-GENERAL OF SUBSISTENCE.		
Colonels.		
Michael R. Morgan	Bvt. Brig. General, April 9, 1865.	Chief C. S., Department of the Missouri.—Chicago, Ill.
John P. Hawkins	Bvt. Major-General, March 13, 1865.	Chief C. S., Department of California.—San Francisco, Cal.
Lieutenant-Colonels.		
Michael P. Small	Bvt. Brig. General, April 9, 1965.	Chief C. S., Department of the East.—Governors Island, New York, N. Y.
Thomas C. Sullivan		Purchasing and depot C. S. at Chicago, Ill.
John W. Barriger	Bvt. Brig. General, March 13, 1865.	Purchasing and depot C. S. at St. Louis, Mo.
COMMISSARIES OF SUBSISTENCE.		
Majors.		
Thomas Wilson	Bvt. Brig. General, March 13, 1865.	Purchasing and depot C. S. at New York City, N. Y.
William H. Bell		Purchasing C. S. at Denver, Colo.
Jeremiah H. Gilman	Bvt. Lt. Col., Dec. 31, 1862.	Assistant to the Commissary-General of Subsistence.—Washington, D. C.
Samuel T. Cushing		Purchasing and depot C. S. at Fort Leavenworth, Kans.
William A. Elderkin		Chief C. S., Dept. of Arizona.—Los Angeles, Cal.
Charles B. Penrose	Bvt. Lt. Col., Nov. 11, 1867.	Purchasing and depot C. S. at Baltimore, Md.
William H. Nash		Chief C. S., Dept. of the Columbia, Vancouver Barracks, State of Washington.
Charles P. Eagan		Purchasing and depot C. S. at Boston, Mass.—On leave.
Captains.		
John F. Weston		Assistant to the Commissary-General of Subsistence, Washington, D. C.
Charles A. Woodruff		Purchasing and depot C. S. at San Francisco, Cal.
John J. Clague		Chief C. S., Dept. of Dakota, and purchasing and depot C. S. at St. Paul, Minn.
Wells Willard		Chief C. S., Dept. of Texas, and purchasing and depot C. S., San Antonio, Tex.
Henry G. Sharpe		Purchasing and depot C. S. at Portland, Oregon.
Frank E. Nye		Purchasing and depot C. S. at Washington, D. C.
Douglas M. Scott		On sick leave.
Wm. L. Alexander		Depot and post C. S., Fort Monroe, Va.
Henry B. Osgood		Chief C. S., Dept. of the Platte, Omaha, Nebr.
Oskaloosa M. Smith		Purchasing and depot C. S., New Orleans, La.
Edwd. E. Dravo		Temporary duty in office Commissary-General of Subsistence, Washington, D. C.
Abiel L. Smith		Awaiting orders.

OFFICE COMMISSARY-GENERAL OF SUBSISTENCE,
Washington, D. C., June 30, 1892.

REPORT OF THE SURGEON-GENERAL OF THE ARMY.

REPORT

OF

THE SURGEON-GENERAL.

WAR DEPARTMENT, SURGEON-GENERAL'S OFFICE,
Washington, D. C., September 30, 1892.

SIR: I have the honor to submit a statement of disbursements during the fiscal year ended June 30, 1892, from the appropriations made by act of Congress for the expenses of the Medical Department of the Army and for other purposes as stated below:

Medical and hospital department, 1892:		
Appropriated by act approved February 24, 1891		$200,000.00
Refunded during the year		181.01
Total to be accounted for		200,181.01
Disbursed during the year:		
For medical and hospital supplies	$70,289.42	
Expenses for purveying depots	181.75	
Pay of employés	43,315.74	
For medical attendance and medicines	8,072.98	
For advertising	233.07	
For miscellaneous expenses	904.51	
		122,997.47
Balance on hand June 30, 1892		77,183.54

The whole of this balance remaining on hand at the close of the fiscal year has already been or will be expended in payment for supplies contracted for and for other obligations incurred prior to July 1, 1892.

The approximate money value of the medical and hospital supplies actually issued during the fiscal year ended June 30, 1892, was $141,000.

Medical and hospital department, 1891:		
Balance on hand July 1, 1891		$95,958.84
Refunded during the year		613.99
Total to be accounted for		96,572.83
Disbursed during the year:		
For medical and hospital supplies	$55,312.11	
For expenses of purveying depots	2.85	
For pay of employés	200.00	
For medical attendance and medicines	1,998.70	
For advertising	116.40	
For miscellaneous expenses	219.86	
		57,849.92
Balance on hand June 30, 1892		38,722.91

Medical and Hospital Department, 1890:		
Balance on hand July 1, 1891		$17,844.35
Disbursed during the year:		
For medical and hospital supplies	$127.00	
For medical attendance and medicines	66.50	
		193.50
Carried to surplus fund		17,650.85
Library of the Surgeon-General's Office, 1891:		
Balance from previous fiscal year		1,541.08
Disbursed during the year		1,541.08
Library of the Surgeon-General's Office, 1892:		
Appropriated by act of February 24, 1891		10,000.00
Disbursed during the year		7,725.76
Balance June 30, 1892		2,274.24
Army Medical Museum, 1891:		
Balance from previous fiscal year		854.83
Disbursed during the year		850.68
Balance, June 30, 1892		4.15
Army Medical Museum, 1892:		
Appropriated by act of February 24, 1891		5,000.00
Disbursed during the year		3,949.86
Balance, June 30, 1892		1,050.14
Building for Army Medical Museum:		
Balance from previous fiscal year		1,184.05
Balance, June 30, 1892		1,184.05
Artificial limbs, 1889 and prior years:		
Balance from previous fiscal year		4,160.87
Transfer warrant, act of March 3, 1875		2.20
Total to be accounted for		4,163.07
Disbursed during the year		2.20
Carried to the surplus fund		4,160.87
		4,163.07
Artificial limbs, 1890:		
Balance from previous fiscal year		1,416.56
Disbursed during the year	$250.00	
Carried to the surplus fund	347.76	
		597.76
Balance, June 30, 1892		818.80
Artificial limbs, 1891:		
Balance from previous fiscal year		16,432.12
Disbursed during the year		13,088.39
Balance, June 30, 1892		3,343.73
Artificial limbs, 1892:		
Appropriated by act of March 3, 1891		125,000.00
Appropriated by act of May 13, 1892		241,650.00
Total to be accounted for		366,650.00
Disbursed during the year		285,472.61
Balance, June 30, 1892		81,177.39

Appliances for disabled soldiers, 1890:	
Balance from previous fiscal year	$522.81
Balance, June 30, 1892	522.81
Appliances for disabled soldiers, 1891:	
Balance from previous fiscal year	129.51
Disbursed during the year	70.90
Balance, June 30, 1892	58.61
Appliances for disabled soldiers, 1892:	
Appropriated by act of March 3, 1891	2,000.00
Disbursed during the year	1,904.10
Balance June 30, 1892	95.90
Expended in furnishing trusses to disabled soldiers under the Revised Statutes, sections 1176 to 1178, and act of March 3, 1879	11,111.10
Support and medical treatment of destitute patients in the city of Washington:	
Appropriated by act of March 3, 1891	19,000,00
Expended during the year	19,000.00

There were furnished to disabled soldiers, seamen, and marines during the year ending June 30, 1892:

Trusses	537
Special appliances	195
Artificial legs, furnished in kind	53
Artificial feet, furnished in kind	2
Artificial arms, furnished in kind	2
Limbs and apparatus commuted	6,385

The new Standard Supply Table of the Medical Department is completed and will shortly be published. It is more than a revision of the present one, issued nine years ago, and is believed to provide in a satisfactory and liberal manner for the necessities of the service. Many new articles of medicines, instruments, and miscellaneous supplies have been added to it, and many old and more or less obsolete and useless ones have been dropped. Full directions are given in the introductory part concerning the care of property and the papers required to insure proper accountability, etc.

Particular attention has been given to a new field equipment, most parts of which have been issued to many of the larger posts. As comprised in this may be mentioned an ambulance, a contract for the manufacture of 100 of which has been awarded by the Quartermaster-General; litters; folding field furniture, issued on the basis of a ten-bed field hospital; medical, surgical, food, mess, and other chests for similar use; pouches containing medicines and surgical dressings necessary for first aid to the sick and wounded; a surgeon's field case; a special pack saddle for carrying the medical and surgical chests when wagon transporation is not available, and many minor articles. Illustrations, with brief descriptions of the more important of these, are appended to this report. It is believed that this equipment marks decided progress, and that in this respect our Medical Department is now equal to, if not in advance of, the medical service of any other army.

When thorough trial has been made of these articles reports will be called for from the medical officers who have used them with a view to such improvements of detail as may be advisable before furnishing them generally. A reserve will be kept on hand at the three medical supply depots for such emergencies as may arise.

Attention is particularly invited to the compactness of the new supplies and equipment, full advantage having been taken of the recent

advances of pharmacy and aseptic surgery as to the former, and of the suggestions of medical officers and manufacturers as to the latter.

Much consideration has been given to the selection of the design for a litter, and credit is especially due to Maj. J. Van R. Hoff, Medical Department, Capt. George T. Beall, medical storekeeper, and Mr. P. R. Wagner, chief clerk medical supply depot, St. Louis, for working out the details and suggesting improvements. The litters now in use can, at slight expense, be modified to correspond to the new designs, and the necessary parts have been ordered and will soon be delivered and distributed.

Upon the recommendation of this office a clause was inserted in the act making appropriations for the support of the Army for the fiscal year 1893, by which advertisement before purchase of medicines and medical supplies is not required, thus giving the Medical Department of the Army the same advantage in procuring its supplies as has long been the case in the Bureau of Medicine and Surgery in the Navy. This will be of much practical value, particularly in obviating the delay which, in the past, has often involved the Department in considerable expense owing to a rise in the market price of articles between the time of first advertising and the opening of bids, which were, in many such cases, canceled by the bidders. The Department in making its purchases will now be enabled to take advantage of all reductions in current prices.

The chemical examination of medical supplies in this office fully protects the Government from the acceptance of articles that are not of the best quality.

During the year a thorough examination of all medical property in use at posts has been made with the view of returning to the supply depots all surplus property, and of condemning such as was found to be obsolete and useless. To secure expert action and carry out the views of this office uniformly, lists of all surplus property and of such as was considered obsolete by the post surgeon were called for from each post; these were examined in this office and my views as to the proper distribution of the different articles were indicated. At my request a letter was then addressed to each department commander directing that articles of medical and hospital property believed to be unsuitable for service should, before being submitted to an inspector for condemnation, be inspected by the medical director of the department, or by a medical officer designated by the Secretary of War, who should report to the Surgeon-General through military channels his recommendation as to their continuance in service, shipment, sale, or their inspection with a view to condemnation. A special letter of instruction was then sent to all medical directors transmitting to them the lists of unserviceable property received from the posts in their respective departments and giving detailed instructions for their guidance in regard to making the desired inspections of property.

Reports of these inspections have been received from most of the posts, and it can be confidently asserted that never before has such a judicious and thorough examination of the property of the Medical Department been made. Medical directors, knowing the views and policy of this office, have been enabled by their expert knowledge not only to eliminate a large amount of wholly useless and obsolete property, but to retain much that otherwise would have been condemned and destroyed. Of the articles retained many were susceptible of modification in accordance with the designs of the new field equipment, while others were returned to depot for repair and reissue or for re-

tention in stock as a supply available for the emergencies of war in the case of such articles as do not deteriorate from age. Among other benefits a large money saving has already resulted from this system of inspection, which can not be too strongly commended as being greatly to the interest of the Government and of the Medical Department.

ARTIFICIAL LIMBS.

The money appropriated by Congress for artificial limbs, 1891–'92, $125,000, was estimated for and appropriated at a time when the benefit under the law recurred to the individual every five years. An amendment, approved March 3, 1891, changed the time of recurrence from five to three years, but no appropriation was made to meet the increased expenditure involved in the change. The immediate effect of the amendment was to perfect, on March 3, 1891, the claims that otherwise would have been scattered at maturity over the period to March 3, 1893. The balance of the appropriation for 1890–'91 on hand March 3, 1891, with the appropriation for the year 1891–'92, was unable to meet these claims, and an estimate for a deficiency appropriation of $241,650 on account of 4,728 claims which matured before June 30, 1892, was transmitted to Congress.

During the time that the disbursing business of the office was at a standstill for want of funds the records were carefully examined and many points of interest were noted, some of which are here presented.

From June 17, 1870, to January 15, 1892, the names of 21,102 persons were placed on the approved files of the office, while 4,818 applications were rejected after a full examination of each case.

Of the 21,102 persons, 10,187 filed claims for amputation and 10,915 for loss of the use of limbs. Of the former 5,053 had lost the upper and 5,134 the lower extremity; of the latter the use of the arm was lost in 6,391, of the leg in 4,524. Amputations thus constituted 48.28 and disabled but not amputated limbs 51.73 per cent of the total. The upper extremity was lost in 23.95 per cent, the lower in 24.33; the use of the arm in 30.29 and the use of the leg in 21.44.

Nearly the whole of the 10,187 cases of amputation came upon the rolls in 1870–'71, after the passage of the acts of June 17 and 30, 1870, granting an artificial limb or its commuted value once every five years to all soldiers who had lost a limb during the war for the supression of the rebellion, and extending the benefits thus provided to all officers, seamen, and marines disabled by loss of limb in the military or naval service of the United States.

When the act of June 8, 1872, extended the benefit to those who had sustained bodily injuries depriving them of the *use* of their limbs the number on the commutation rolls became largely increased. In 1872–'73 1,195 applications were approved, and thereafter the annual additions to the files averaged about 330, except that during the years 1883–'86, inclusive, 3,845 cases were allowed, and during 1889–'90 2,085 cases.

The unusual activity in the filing of claims during the first of these exceptional periods was due to the energy with which claim agents advertised their business among those who were known to be in receipt of pension on account of disability of the limbs. The second exceptional period was caused by the efforts of this office to free the pensioners from the toils of these agents. Not content with 10 per cent of the commutation granted on the original application, they endeavored to make it appear that their services were of value in securing the recurring payments, so that they might claim from the disabled soldiers

10 per cent of the moneys paid under the operation of the laws relating to artificial limbs. The Surgeon-General thereupon gave wide publicity to the fact that the services of attorneys were unnecessary in applications for artificial limbs or their commutation, either original or recurring, and the measures he adopted for disseminating this information immediately suppressed the business of the claim agents and at the same time brought their rights under the law to the knowledge of many pensioners who might otherwise have remained ignorant of them. It is believed that since May, 1889, no part of the money received by pensioners has been paid to agents for their assumed valuable assistance. The pensioners in all cases communicate directly with this office.

The accession of new names to the rolls is due now, not to the provisions of law becoming known to pensioners who were heretofore ignorant of them, but to the increase of disability with advancing age. Rheumatism, varicose veins, atrophy, and contraction of muscles, which are prominent causes of disability of the limbs, become aggravated with the advance of time; locomotor ataxia, paralysis, and other diseases of the nervous system implicating the movements of the limbs are also progressive, so that many sufferers from these diseases who had comparatively good use of their limbs in 1870 are now completely disabled.

Among the number of pensioners stated above as having lost an arm are some who had lost more than one member; thus 37 had lost both arms and 19 an arm *and* a leg; and among those recorded as having lost a leg are included those who had lost parts of other limbs or the use of other limbs; thus 49 had lost both legs, 25 both feet, 8 a leg *and* a foot, and 8 a leg, the other leg being wholly disabled, etc.

Of the 21,102 persons whose claims were approved during the period covered by the statistics the names of 16,322 remained on the list of beneficiaries on January 31, 1892. In 7,412 of these the limb was lost—the arm in 3,617, the leg in 3,795; in 8,910 the use of the limb was lost—the arm in 5,191, the leg in 3,719. There were, therefore, dropped from the rolls 4,780 cases during the period stated, 2,775 amputations—1,436 of the arm, 1,339 of the leg; and 2,005 cases of lost use—1,200 of the arm, 805 of the leg.

Death closed 3,954 of these cases, 515 were dropped as probably dead, every effort of this office having failed to discover them, while 311 cases were rejected on second or subsequent applications for commutation in view of later information concerning the condition of the individual. Hence, assuming as dead the 515 dropped on account of the inability of the office to find them, the total number of deaths among the 21,102 persons whose claims were approved would amount to 4,469.

These deaths occurred during the twenty years following the passage of the artificial-limb laws. The statistics given above report the conditions as known at this office on January 12, 1892; but deaths among those whose names are borne on the rolls do not usually become known until after the date when the next installment of commutation would have become payable. The pensioner fails to communicate with the office at that time, and inquiry concerning him develops the fact of his death. Of the 16,322 on the rolls on January 31, 1892, probably about 400 would have failed to respond to a roll call on that day, having died between that date and the time of their last payment.

During the five years intervening between the first and second payments 1,979 of the 21,102 died; during the second quinquennial period, 942; during the third, 834; during the fourth, 696, and the fifth instalment now in progress has developed so far the occurrence of 18 deaths.

The absolute number of deaths, 4,469, represents 21.18 per cent of the total number of cases. Of the amputated cases 2,756 died, or 27.14 per cent of their own number, and of the cases of disabled but not amputated limbs 1,704, or 15.61 per cent of their own number.

It does not follow from these statements that the mortality was greater among those who lost limbs than among those who lost the use of their limbs, for the data relating to the two classes are not parallel. The amputated cases came on the rolls in 1870–'71, and have been under observation for twenty years, while, from the gradual manner in which claims for disabled limbs were filed, many of these cases have been under observation for but a few years. In fact, the whole number on the commutation list is equivalent to only 5,320 persons under observation for twenty years; and as 1,704 deaths were recorded among them the mortality rate for the period would be 32.03 per cent, as compared with 27.14 among the cases of amputation. The known death rates in a few detachments of these men corroborate the general rate as given by calculation. Thus, of the 1,195 cases that came on the rolls in 1872–'73, 334 or 28 per cent have died; but the record of the fourth period of five years is incomplete, and the death rate for the twenty years will, therefore, be somewhat larger than 28 per cent. During the first period 142 died, or 11.9 per cent; during the second, 72 or 7 per cent of those alive at the beginning of the period; during the third, 75 or 7.7 per cent of the survivors; and during the fourth or incompleted period there have already been reported 44 deaths, or 5 per cent of those alive in 1888–'89.

The death rate of both of these classes is considerably higher than it would have been if the disabled or amputated limbs had been the only results of the war service that tended to shorten life; for it must be observed that many of these men had other wounds or disabilities besides those affecting their limbs.

In general terms, the age of those persons during the twenty years of observation covered the period of life from 30 to 50 years of age, and the average annual death rate was for the amputated cases 13.6 per thousand and for the others 16 per thousand living at the beginning of the period. The experience of insurance companies shows the death rate of men between the ages of 30 and 50 to be an average of about 9 per thousand annually. The increase among our pensioners to 13.6 and 16 expresses the influence of their disabilities and of the exposures associated with the incurrence of them in shortening their lives.

These rates, large as they are, compared with the average rate prevailing among individuals of corresponding age in civil life, apply only to a certain period of twenty years. To determine the influence of wounds and exposures in increasing the death rate of the soldiers of the war of the rebellion we should require to know the number of the wounded or otherwise disabled living at the close of the war and the deaths that occurred among them up to June 30, 1870, when the statistics of the operations of this office under the artificial-limb laws take them up and account for them with precision. It is not possible to obtain these data in the cases of the disabled men, but the facts concerning the amputated cases are better known.

At the close of the war there were, according to the records of this office, 13,052 recoveries from amputation of the arm or leg such as would have entitled each to benefit under the artificial-limb law subsequently enacted; and as in 1870 only 10,187 applied for artificial limbs or commutation, it may be inferred that 2,865 of those maimed soldiers had died up to that time—21.95 per cent of their total—a much larger percent-

age of mortality than is shown by any of the subsequent quinquennial periods. By incorporating these figures with those previously given it is found that during the twenty-five years, from the close of the war to 1890, 5,621 subjects of amputation died out of a total of 13,052 cases, or 431 per thousand. Dividing the quarter of a century into successive periods of five years the deaths during the first period were 2,865, or 21.95 per cent of the total; during the second 999, or 9.81 per cent of the survivors at the beginning of the period; during the third 557, or 6.06 per cent of those surviving in 1·75; during the fourth 583, or 6.75 per cent of those alive in 1880; and during the fifth, 1885–'90, 610, or 7.58 per cent of those on the rolls in 1885. It is thus seen that the mortality rates of those men who were disabled during the war was very large during the early years succeeding the occurrence of their disabilities, and from what follows it may be observed that even now their annual death rate is largely in excess of that of the average citizen.

At the close of the war the recoveries from amputations of the upper extremity numbered 6,249. In 1870, 1,193 or 19.14 per cent of their number may be assumed to have died, for only 5,053 filed their claims for artificial arms; 557 cases, or 11.02 per cent of those alive in 1870, died before receiving a second benefit; 268 cases, constituting 5.96 per cent of the survivors, died after the second but before the third benefit; 293, or 6.93 per cent of those living in 1880, died before 1885, and 305, or 7.75 per cent of those alive in the last-mentioned year, died before the expiry of the next five years.

The recoveries from amputation of the lower extremity numbered 6,703 at the close of the war; but as only 5,134 reported for artificial limbs, 1,569, or 23.41 per cent, may be assumed to have died. The deaths and the percentages constituted by them for the next four quinquennial periods were as follows: 1870–'75, 442 and 8.61; 1875–'80, 289 and 6.16; 1880–'85, 290 and 6.59; 1885–'90, 305 and 7.41.

The death rate of those who suffered amputation of the leg was greater than that of the cases of amputated arm during the early period succeeding the war, but during the later years the rates in the two sets of cases have not varied much.

Since each of the 21,102 persons on the rolls has received an artificial limb or its commutation one or more times, the number of certificates issued by this office has amounted to 68,456—40,959 in cases of amputation and 27,497 in cases of loss of use of limbs—the relative percentage being 59.83 and 40.17.

The certificates entitling to benefit in cases of amputated upper extremities number 20,185, of which 287 were for limbs in kind and 19,898 for commutation. With the artificial limb furnished in kind the law provides for the free transportation of the pensioner to and from the place of manufacture, thus affording an opportunity to those who had settled in the West to have a trip to New York, Philadelphia, or other eastern city which might be utilized in seeing old friends and relatives. Notwithstanding this inducement to be fitted with the artificial arm 98.6 per cent of the arms which might have been called for were commuted. Only a little over one man in a hundred of these armless men elected to receive the arm. Its usefulness is regarded as nil, and although some may claim it to be an ornamental addition to a maimed individual, the man with a war record generally prefers his empty sleeve. The records show also that few of those who were furnished with an artificial arm called for a renewal of it at a subsequent period.

The artificial leg is shown by the statistics to be an appliance of much more practical value than the arm. Of 20,214 certificates issued in cases of loss of the leg the limb in kind was called for in 4,421, the money equivalent in 15,793, or in 21.9 and 78.1 per cent respectively. At first sight it would seem from these statistics that the allowance of an artificial leg once every five years is largely in excess of the needs of the maimed soldiers, since so many elected to receive the money value rather than the limb; but it must be remembered that in many cases, on account of conditions of the stump, a leg can not be worn, and that unfortunately the financial circumstances of many of the old soldiers are such as to prevent them from accepting the expensive luxury of an artificial leg when its acceptance would cause them the loss of the $75 dollars which they would otherwise obtain. Although the names of 5,134 men crippled by amputation are on the rolls, only 4,421 artificial legs were used during the whole period of twenty years. Hence from these statistics nothing can be gathered concerning the durability of an artificial leg. The manufacturers are under bonds to furnish good and satisfactory limbs without extra charge to the soldier, and to make good for five years all defects of material or workmanship without additional charge, subject in all cases to the inspection of such persons as the Surgeon-General may designate; and it must be said to their credit that this office is unaware of any failure on their part in this respect. The care exercised in the manufacture and fitting is such that a complaint of misfit, discomfort, poor workmanship, or inferior materials is hardly known in connection with this service.

In amputations of the foot 560 certificates were issued, 24 for the artificial foot and 536 for its money value, $50—4.3 and 95.7 per cent respectively.

There were 16,410 certificates issued in cases of loss of use of the arm. Few of these were susceptible of benefit by surgical apparatus, only 34 such having been recorded in the twenty years. Commutation was paid in 16,376 cases.

Similarly, in loss of use of the leg, benefit was derived from apparatus in only 49 cases while commutation was paid in 11,087.

ARMY MEDICAL MUSEUM.

The number of specimens received during the fiscal year was 987; total number of specimens in the museum June 30, 1892, 31,228. The following statement shows the additions to the different sections:

Pathological section:	
In museum June 30, 1891	10,140
Received during the year	165
In museum June 30, 1892	10,305
Anatomical section:	
In museum June 30, 1891	3,315
Received during the year	96
In museum June 30, 1892	3,411
Section of comparative anatomy:	
In museum June 30, 1891	1,717
Received during the year	0
In museum June 30, 1892	1,717

Microscopical section:	
In museum June 30, 1891	11,870
Received during the year	400
In museum June 30, 1892	12,270
Miscellaneous section:	
In museum June 30, 1891	1,332
Received during the year	192
In museum June 30, 1892	1,524
Provisional pathological section:	
In museum June 30, 1891	1,161
Received during the year	113
In museum June 30, 1892	1,274
Provisional anatomical section:	
In museum June 30, 1891	706
Received during the year	21
In museum June 30, 1892	727

RECAPITULATION.

Total number of specimens in museum June 30, 1891	30,241
Total number received during the year	987
Total number in museum June 30, 1892	31,228

The following are some of the more interesting specimens added to the museum during the fiscal year ending June 30, 1892:

A series of twenty casts in cathcartine (glue and glycerin), colored after nature, showing different pathological conditions. After specimens in the museum of the Royal College of Surgeons, Edinburgh. Purchased.

Specimens of sarcoma of thigh and arm, affecting bones and soft parts. Presented by Dr. J. T. Sothoron, Washington, D. C.

Specimens of sarcoma of suprarenal capsule and jejunum. Presented by Surgeon R. H. Tilton, U. S. Army.

A series of teeth, most of which were removed from Indians in South Dakota, show caries and atrophy. Presented by Dr. Z. T. Daniel, physician United States Indian service.

Four plaster casts showing various conditions of tympanic membranes. Presented by Dr. B. A. Randall, Philadelphia, Pa.

Bones of the right forearm which were fractured by shot wound in September, 1862. The soldier returned to duty in March, 1863. Discharged from service in April, 1863. In December, 1891, septicæmia set in, necessitating amputation in January, 1892. Presented by Dr. S. M. Whistler, Bainbridge, Pa.

Portions of lungs of a cow, showing tubercles. Presented by veterinary surgeon C. B. Robinson, Washington, D. C.

Perforated left innominate bone of a volunteer officer, who was shot in July, 1862, and never fully recovered. Died January, 1892.

Heart showing abscess of muscular wall and old ante-mortem clot in left ventricle. Death from hemorrhage into the lungs. Presented by Acting Assistant Surgeon D. S. Lamb, U. S. Army.

Greatly enlarged models of eye, head, and larynx. Prepared by Dr. Auzoux, Paris. Purchased.

Two wax composition models of cerebrum of an adult, showing the fissures and convolutions, after Prof. A. Ecker. Made by Dr. A. Ziegler, Freiburg. Purchased.

Series of eight wax composition models of brains of vertebrates. Prepared under direction of Prof. R. Wiedersheim, in Freiburg, by Dr. A. Ziegler. Purchased.

Brain of a pure-blood Apache Indian. Presented by Surgeon W. Matthews, U. S. Army.

Cast of human brain, showing the localization of the cortical centers, after Exner. Made by G. Matauscheck, Vienna. Purchased.

Series of thirty-one casts in cathcartine (glue and glycerine), colored after nature, showing dissections and surgical operations. Purchased.

Series of thirty wax composition models, showing the development of the human embryo, of the vertebrate eye, of the heart of the human embryo, and of the human external genitals. Made by Dr. A. Ziegler, Freiburg. Purchased.
Neuro-topographical bust, devised by Dr. W. C. Krauss. Purchased.
Plaster model showing median sagittal section of head and neck of an adult male, indicating the varieties of epithelia by colors. Made by F. Ziegler, under direction of Prof. B. Solger, of Greifswald. Purchased.
A bronze medal struck in honor of Fancesco Redi, an Italian physician (1626–1697), by Cosimo III, Grand Duke of Toscana.
A beautiful bronze medal, 3½ inches in diameter, of M. Malpighius, an Italian physician and author (1628–1694).
A bronze medal, 6½ inches in diameter. A gold medal of the same size and design was presented to Prof. Rudolph Virchow on his seventieth birthday, October 31, 1891.
A portrait in oil of Xavier Bichat, French physician and author (1771–1802). Presented by Mr. E. A. Andrews, of the Corcoran School of Art.

LIBRARY.

The following table shows the additions made to the library during the fiscal year:

Description.	On hand June 30, 1891.	Added during fiscal year.	Total, June 30, 1892.
Medical journals	30,048	1,164	31,212
Medical transactions	4,305	199	4,504
Bound theses	1,574	89	1,663
Bound pamphlets	2,039	34	2,073
Other medical books	64,003	3,745	67,748
Total	101,969	5,231	107,200
Medical theses	50,801	2,641	*53,442
Medical pamphlets	101,424	11,140	112,564
Total	152,235	13,781	166,006

*Of the total number of single theses on hand there were bound during the year 1,323 in 89 volumes.

There were presented to the library during the year 661 books and 9,218 pamphlets and journals; also 24 photographs.

Volume XIII of the Index Catalogue, including from "Sialagogues" to "Sutugin," forming a volume of 1,005 pages, has been completed and is now in the printer's hands. The edition will be distributed as soon as bound to those institutions and persons who have received the previous volumes. The preparation of the manuscript of Volume XIV is already well advanced.

PROVIDENCE HOSPITAL.

Under the provisions of the act of March 3, 1891, making appropriation of $19,000 "for the support and medical treatment of ninety-five medical and surgical patients who are destitute in the city of Washington, under a contract to be made with the Providence Hospital by the Surgeon-General of the Army," a contract was duly entered into with the institution named, and has been fulfilled to my satisfaction and without complaint on the part of the persons sent there for treatment. The following is a statement of the amount of relief afforded under the appropriation:

Number of patients in hospital July 1, 1891	95
Number of patients admitted during the year	896
Total number of patients treated	991

Average number of patients admitted per month	75
Number remaining in hospital June 30, 1891	95
Total number of days' treatment afforded	36,166
Average number of days' treatment per patient	36
Average number of patients treated per day	99
Longest term of treatment (days)	366
Shortest term of treatment (days)	1
Number of patients in hospital during the whole year	23

The patients included in the statement represent all classes of diseases, acute and chronic, except those of a contagious nature. The patients shown as having remained in hospital during the whole year are incurable, without home or friends.

THE ARMY AND NAVY GENERAL HOSPITAL, HOT SPRINGS, ARK.

The capacity of this hospital is 80 beds 16 for officers and 64 for enlisted men. During the fiscal year 131 cases were treated: 102 enlisted men and 29 officers. Of the men 57 were returned to duty; 24 were discharged for disability and 6 for other causes; 15 remained under treatment June 30, 1892. Of the 87 completed cases 46 were apparently well on leaving the hospital, and 15 were materially improved; thus 61 out of 87, or 70 per cent of those who ordinarily would have been lost outright to the service, have been preserved in health by a course of hospital treatment which averaged ninety-nine days for each case.

Satisfactory access to the spring supplying the hospital, the way to which has long been complained of, has been acquired during this year. The most material improvement in the hospital itself this year has been the introduction of steam heat into the south ward and the men's building, so called (the building containing the soldiers' kitchen and messroom and the sleeping rooms of the detachment of the hospital corps). It is desirable to introduce artificial heat into the covered way between the main building and the bath house, and to connect the two systems of heating from the bath house and the administration building boilers, so that they may relieve each other. The expense will not be great. No work has been done on the boundary walls, owing to want of funds. Estimates made for this and other necessary work in connection with the preservation of the grounds have not been favorably acted on by the Quartermaster's Department. Nevertheless, the improved grounds present an attractive appearance, due to the skillful landscape gardening of the post quartermaster. Much plastering has fallen or become loose in the bath houses. With this exception, the public buildings are in fair condition.

INSPECTIONS BY MEDICAL DIRECTORS.

The medical department of each military post has been inspected by the medical director of the military department in which it is situated, in accordance with Army regulations and a system outlined by this office. The reports of this work show a gratifying condition of the medical department as to the discipline of its personnel, the manner in which its service has been rendered, and the quantity and quality of its supplies. These experienced officers have indicated to post surgeons the views of this office concerning the improved methods of administration it is inaugurating, encouraged them in their work of instructing the hospital corps, and admonished them when their interest in duty has appeared to flag. I regard these inspections as of the

greatest benefit, not only to post surgeons but to the Army at large, and am satisfied that their continuance will be productive of excellent results.

MEDICAL OFFICERS.

The requirements of the Army, as regards medical officers during the past year, have been as follows:

Number of permanent posts and stations	114
Number of temporary posts and substations	8
	122

There were 93 medical officers reported to this office as having been on duty with scouting parties and other field service during the year.

Army medical examining boards were convened in New York City, N. Y., October 1, 1891; Chicago, Ill., February 1, 1892, and again in New York City, N. Y., March 1, 1892, and remained in session one month each, for the examination of candidates.

The following is a recapitulation of the work performed by the boards during their sessions.

Candidates invited to appear for examination	77
Candidates found qualified	13
Candidates rejected, professionally	10
Candidates rejected for physical disability	14
Candidates who withdrew after partial examination	21
Total examined	58
Candidates who refused examination	2
Candidates who failed to appear for examination	16
Candidates rejected for moral defects	1

Deaths.—One assistant surgeon with the rank of captain.

Retirements.—One chief medical purveyor with the rank of colonel, 1 surgeon with the rank of colonel, 2 surgeons with the rank of major, 4 assistant surgeons with the rank of captain.

Promotions.—One surgeon, with the rank of lieutenant-colonel, to be chief medical purveyor, U. S. Army, with the rank of colonel; 1 surgeon, with the rank of lieutenant-colonel, to be surgeon with the rank of colonel; 1 surgeon, with the rank of major, to be assistant medical purveyor with the rank of lieutenant-colonel; 1 surgeon, with the rank of major, to be surgeon with the rank of lieutenant-colonel; 5 assistant surgeons, with the rank of captain, to be surgeons with rank of major; 7 assistant surgeons, with the rank of first lieutenant, to be assistant surgeons with the rank of captain after five years' service. (Act of June 23, 1874.)

Appointments.—Thirteen assistant surgeons with the rank of first lieutenant.

Resigned.—One assistant surgeon with the rank of captain, 1 assistant surgeon with the rank of first lieutenant.

Canceled.—The appointment of 1 assistant surgeon with the rank of first lieutenant.

Commission vacated.—One surgeon with the rank of major.

Vacancies.—The are now eleven vacancies in the Medical Department.

THE HOSPITAL CORPS.

The companies of instruction authorized by the Major-General Commanding, and referred to in my last annual report, have been organized and are now in successful operation at Forts Riley, Kans., and D. A.

Russell, Wyo. Their personnel consists of 3 medical officers (others may be attached for instruction), 7 noncommissioned officers (3 hospital stewards, and 4 acting hospital stewards—others to be attached for instruction), 1 buglar, 1 artificer, 1 tailor, 40 (or more) privates.

The object of this organization is twofold: (1) To always have at hand, for any emergency, a trained body of sanitary soldiers, accustomed to working together and the capabilities of each unit thereof well known to its commander. (2) To build up a training school through which, ultimately, all enlisted men of the hospital corps will pass. The advantages to the service arising from the possession of such an organization are obvious.

To establish the divisional field hospital at Pine Ridge, S. Dak., in 1890, it was found necessary to assemble men of the hospital corps from every quarter. Unknown to each other or to their commanding medical officer, trained by different methods, gathered together in haste and under adverse circumstances, these elements had to be molded into homogeneity just when complete organization was most needed. The excellent results obtained bear testimony at once to the ability of the medical officer in charge and the inherent good quality of the material at his command; but had there been a perfectly organized, trained, and equipped company of sanitary soldiers immediately available for that campaign its value would have been inestimable, for with it not only could a divisional field hospital have been at once established at the base of operations, but from it detachments could have been made if necessary for field work with the various commands, hardly any of which were sufficiently supplied in this direction.

The organization of these companies as training schools for the hospital corps justified an amendment of army regulations whereby the Medical Department is authorized to make direct enlistments therein of a class of men from civil life who, by previous education and inclination, have aptitude for the special work of the corps as druggists, clerks, school-teachers, cooks, artisans, etc.; men of certain attainments who desire to take advantage of the opportunities offered by this school to become proficient in military sanitary work; it also relieves the line of the army to a considerable extent of a hitherto constant drain of material valuable to it, men who would make noncommissioned officers; and these men became useful members of the hospital corps under the three-year law only about the time of the expiration of their service.

The course of instruction by recitations, lectures, demonstrations, etc., is both theoretical and practical, combining at once the training common to all soldiers (drill, etc., the chief end of which in this connection is discipline) with the special instruction of the sanitary soldier. The curriculum is sufficiently comprehensive to give the men a fair knowledge of the requirements of their position and comprises infantry drill (through the school of the company), U. S. Infantry Drill Regulations; Elementary human anatomy and physiology (Steele); Theoretical nursing (Weeks); rudiments of materia medica and pharmacy (lectures); surgical instruments, dressings, and preparations for operations (lectures); First aid (Dietz); bandaging (practical); Bearer drill (H. C. manual); Field work (Smart's handbook, H. C.), including pitching and striking of field hospitals, formation of dressing stations, field cookery, use of field equipment, Medical Department, practical application of first aid in the field, the use of wheel and pack transportation, care of horses and driving, etc.

In connection with the theoretical instruction the men are in turn detailed for special instruction in the various departments of the hos-

pital. The company and hospital kitchen (Army Cookbook) constitute a school of practical cookery in which men who have aptitude in that direction are taught the management of the ration and other food supplies and its preparation for the table and the sick. After a course covering about six months, those sufficiently proficient are assigned to duty with the various detachments serving throughout the Army, when their practical education may be said to begin. Up to the date of this report 3 acting hospital stewards and 20 privates have been so assigned.

The benefits derived from this course of special instruction in the work of the hospital corps fully warrant me in recommending that legislative action be obtained to place the companies of instruction on a permanent basis.

I regret that the instructions of company bearers has not progressed so satisfactorily as is contemplated by the Army Regulations which direct their assignment and specify their duties. This is due to no want of interest on the part of medical officers but to the failure of the men to report for litter drill and instruction in first aid at the specified times. The coöperation of company commanders in seeing that their company bearers have the needful opportunity of being instructed in their duties is essential to their effective service in emergencies.

As regards the clothing of the hospital corps when on nursing or ward duty I recommend the issue of white linen blouses and pantaloons, as these are less absorbent than the regulation articles of clothing; and in case of infectious diseases they would show stains more readily and could be immersed in disinfecting solution without injury to their texture.

IDENTIFICATION OF DESERTERS, ETC.

The identification of deserters, men dishonorably discharged from service, and others of bad character who have presented themselves for reënlistment has been successfully carried out by the figure-card system. The location, size, character, etc., of the permanent marks and scars on the person of a recruit have been carefully noted at his examination for enlistment on an outline-figure card, which, when compared with the cards of deserters and undesirable men that have been accumulated since the system was instituted, enables this office to determine whether the candidate is one of the men known to be objectionable characters. Most of the deserters from the Army keep at a distance from recruiting offices and military stations to avoid possible recognition and arrest, so that the number of deserters captured by this system forms but a small percentage of the total number of deserters. Nevertheless the results are good, for the detected men are in all cases those hardened individuals whose presence in a company gives it a bad name by their acts, and ultimately a bad character by their influence on such of the younger soldiers as may be led by them into evil habits.

From July 19, 1890, to July 16, 1892, the identity of 173 such men was established, with the result of removing them from the ranks by sentence of court-martial or by special order from the Adjutant-General's Office. There were also 5 cases in which the suspects deserted about the time their identity was reported, so that no investigation could be made. Their desertion may, however, be regarded as having proved the case against them. These occurred early in the history of the system, as afterwards the practice was adopted of recommending the arrest by telegraph of the individual when the evidence of identity seemed to warrant that action. Two other cases remain to be noted—

one in which the man, an ex-convict, had authority for his enlistment, and another in which the individual had been discharged at the Government Hospital for the Insane at the time of the report. On the other hand, in 4 cases in which this office claimed the identification of a certain recruit as a former deserter, the identity was not established on personal examination.

The record thus shows that in 184 cases of desertion, etc., in which the cards were regarded as warranting a report of identity, there were 180 successes and only 4 failures.

In addition to those just enumerated, 6 cases of notable similarity, although not identity, of all the marks were submitted as doubtful cases not warranting arrest, but suggesting investigation. In but one of these cases was conclusive evidence produced that the cards represented different individuals; in 4 the statement of the officer conducting the inquiry that in his opinion there was no identity had to be accepted as final, and in the sixth case the inquiry was dropped for want of funds to procure a photograph of the man.

During the period mentioned there were also 76 cases in which the evidence of identity was deemed conclusive, but as the suspect in each case was already out of the service the cases were reported to the Adjutant-General's Office merely to connect the enlistments and military histories of the men.

In 5 cases of desertion recently submitted the results of the investigations instituted have not been reported. There remain also at date 27 cases of identity ready to be reported for connection of enlistments.

EXAMINATION OF RECRUITS.

During the year 25,050 recruits were examined—white, 23,725; colored, 1,325. Of these 15,724 were rejected—white, 14,884; colored, 840. The rate of rejection per thousand examined was 638.4 for the total; 638.0 for the white and 646.0 for the colored. These are about the usual rates presented by the records of the recruiting offices. Defects of vision caused the rejection of 84.3 of every thousand of the candidates; developmental diseases, 53.5; diseases of the digestive system, 41.3; genito-urinary and venereal diseases, 59.1; and alcoholism, 22.7. Age disqualified in 49.9, height in 10.1, weight in 29.4; most of these being under rather than over the limits. Imperfect knowledge of the English language was the cause in 21.2 and the moral character in 17.8.

The post surgeons of Fort McPherson, Ga., and Washington Barracks, D. C., refer to the inferior quality of recruits received from the regimental recruiting service; while the depot surgeon at Jefferson Barracks, Mo., regards the recruits of the year as inferior to those of former years.

FORT MCPHERSON, GA. (*Maj. J. C. G. Happersett*).—The comparatively large number of admissions to sick report is owing to the number of recruits received during the preceding month and to the fact that many of these men were and are sick from venereal ailments. In a large majority of these recruits no medical examination was made at the time of enlistment, the recruiting officer acting entirely upon his own judgment. A man presented himself at the post for enlistment who, on physical examination, was rejected by the medical officer. The same man reported a few days later with a number of other accepted recruits from Rome, Ga.

WASHINGTON BARRACKS, D. C. (*Maj. J. K. Corson*).—The class of recruits recently received at this post from the various stations of the regimental recruiting service have not, in my opinion, compared favorably with those ordinarily transferred from the depot. While there has not been always objective evidence of physical incompetence sufficient to reject, the men have in many cases proved to be dull, illiterate, and deficient in physical vigor and activity. Of the 28 men re-

ceived from this special recruiting service since January, 1891, 3 were discharged as rejected recruits and 11 have been on sick report one or more times.

JEFFERSON BARRACKS, MO. (*Maj. D. G. Caldwell*).—The habits of the recruits are improving; there is less drunkenness than formerly, and disorders of all kinds occur here less frequently than during previous years. This is to some extent due to the enlistment of a better class of men. The canteen, no doubt, exercises a favorable influence, and monthly payments limit their means to such an extent that they are unable to continue a debauch for a sufficient length of time to get on sick report. * * * The moral character of the recruits enlisted during the past year was better than formerly, but physically they were inferior to those previously enlisted.

MEDICAL DEPARTMENT OF THE NATIONAL GUARD.

Much attention has been given by this office to the organization of the medical department of the national guard, and every opportunity has been embraced of assimilating their methods to those of the medical department of the Army with a view to effective coöperation in time of war. It is as needful for the care of the sick and wounded of a large army that its medical officers be trained by the same methods as it is for the military success of the command that each of its component organizations shall have been drilled in the same system of military tactics.

The reports of our medical officers who have been on duty at some of the encampments of State troops show wherein lie the defects of their medical organization. Many of the medical officers of the guard are earnest students of military sanitary work and have given public expression to the defects of their system and the importance of remedying them.

Two of these defects are radical: the absence of an organized medical staff in the service of the State, and the absence of a hospital corps for service under that staff. These require and should have legislative action for their remedy. Medical officers are appointed to regiments, without examination as to their fitness for military duty, on the recommendation of the commanding officer of the organization; but, if mustered into the United States service, they would be subject to detail for such duties as each was best capable of performing irrespective of the military organization which carried them on its rolls. State medical boards should, therefore, examine those recommended for position on the medical staff, and assignments should be made in accordance with expediency in time of peace, location entering chiefly as a factor, and with known ability in view of anticipated responsibilities in time of war.

Service under the regimental medical officers of the guard is performed by details from the companies. The disadvantages of this system are that men wholly unfitted for the duties may be detailed, and that others who are well qualified by natural constitution and careful training may be relieved from their special duties at any moment by changes in the stations of their commands. It is sometimes claimed that the excellent working of our medical department during the war of the rebellion was effected under the system of regimental medical officers with details of enlisted men for hospital duty; but the claim should rather be that our medical department achieved its noble record in spite of these drawbacks. Our field division hospitals that were ever ready to pick up an exhausted soldier on the march or to receive hundreds of gravely wounded men from the line of battle were organized by treating the regimental medical officers as staff officers subject to the orders of medical directors and irrespective of State or regimental number; and the vital importance of the work done by these hospitals made permanent

the details of the experienced men who were on duty with them. In fact the medical work of the war of the rebellion, which at first under the regimental system was such as to cry aloud to the country for help to the suffering wounded and to bring into existence the Sanitary and Christian Commissions and many State aid societies, became after the development of the division field hospital system a very model for the armies of the civilized world. This success was achieved it may be said under fire on the battlefield; and to accomplish it the medical and hospital systems now in use in the national guard of the various States had practically to be broken up in favor of a medical staff with a specially trained corps of hospital and ambulance men such as the Army has now been provided with by Congress.

So earnest are many of the medical officers of the national guard that they have recently organized an Association of the Military Surgeons of the National Guard of the United States for coöperation in making the medical department of the military forces of each State thoroughly fitted to take its place in the field either by itself or as a component of a national medical department. The second annual meeting of this association was held at St. Louis, Mo., in April last. Speaking of the coöperation of this office with the purposes of the association the president, Surg. Gen. Nicholas Senn, Chicago, Ill., remarked in his opening address:

> The General Government has encouraged us from the very beginning by detailing for our benefit a number of the oldest and most experienced surgeons to attend our meetings. We have eagerly availed ourselves of their wise counsel in planning the sphere of our work, and will look to them in the future for instruction in the practical details of our duties as military surgeons.

The association shall assuredly have all the support which this office has the power to render.

Gen. Senn refers as follows to one of the defects of the present system:

> We can not legislate for the past, but we must use our combined influence to secure the best obtainable material for the medical staff in the future. In most of the States the appointment of military surgeons is virtually in the hands of the regimental commander. Personal friendship, political influence, and social qualifications have often been more weighty in securing a commission than a thorough knowledge of the art and science of medicine and surgery and other qualifications necessary to make a good military surgeon. This is certainly not as it should be. A colonel is expected to know all about military tactics and discipline, but the law or usage which gives him the unlimited power to appoint his medical officers is a great evil and should be abolished if we expect to fill vacancies as they occur in the future with the best available material. The appointments should be made as in the regular Army, by competitive examination conducted by a board of medical officers. This can readily be accomplished as soon as each State has its own association of military surgeons. Let each State association appoint a board of examiners, composed of three members, which can conduct the examination of candidates at any of the regular meetings whenever it becomes necessary to fill a vacancy. As soon as it is generally known that appointments are made on merit and not by favoritism, the reputation of the medical department of the national guard will be greatly enhanced in the estimation of the line officers, the medical profession, and the public. The standing of the medical officer in military circles and the community will be proportionate to the height of the standard fixed by the examination. When commissions are obtainable only after a thorough and satisfactory examination they will be of some value to their holders, and it will then be some honor to be known and seen as a military surgeon. The requirements of admission into the medical service of the national guard should be gradually made so stringent that anyone who gains entrance will be recognized as a scientific man and physician and surgeon of more than average ability. A commission obtained in this way will then be regarded as of far greater value than a diploma from any of our medical colleges. Let me express the hope that the time is not far distant when the regimental commanders shall have no voice in the appointment of his surgeons, but when the door to the entrance into the medical service shall be carefully guarded by a competent medical guard, and only such

candidates are permitted to pass who shall be a credit to the national guard and an honor to the medical profession.

In most of our States the medical officer remains with the regiment, squadron, or battery with which he first became identified. If he is connected with a regimental organization he may expect eventually to reach the rank of major, but if he is attached to a smaller troop promotion is out of the question. It sometimes happens that the pleasant relations which first existed between the commanding officers and a surgeon, for some reason or other, are disturbed, to the mutual detriment of both sides, rendering at the same time military life unpleasant. It is also often the case that a military surgeon is placed on duty with an organization in localities much nearer the home of another colleague than his own, making it necessary to travel unnecessary distances to supply the command with medical aid. For these and other reasons it would be advisable to establish a medical corps in each State to be under the supervision of the surgeon-general or a medical director, who could detail the medical officers for duty as location and other circumstances might dictate. By making the medical officers independent of any particular regiment or smaller detachment many unpleasant experiences might be obviated, and the medical service would be rendered more efficient, and often no inconsiderable expense to the State could be saved; at the same time the surgeons would make many additional pleasant acquaintances. I am very anxious that this subject should receive due attention, not only here, but in the different State associations.

In an address to the association Col. C. R. Greenleaf brought up impressively the need for a knowledge of military methods on the part of the military surgeon. The reports of our medical officers who have been present at national guard encampments show that State military surgeons as a rule have little information on these subjects. Col. Greenleaf remarked:

The ever-present necessity with the medical officer is a comprehensive knowledge of military affairs. No other officer of the Army is required to be individually familiar with the duties of every other military department in addition to his own, and yet this is the task which the sanitary soldier must master if he wishes to be successful in his duties in the field.

Imagine, if you please, that we are to-day at war with a foreign nation and have an army of occupation in the field of 100,000 men. That army is necessarily made up of members of the national guard, for in time of war the regular Army is but a nucleus or color-guard of the fighting force. The administration of its Medical Department consists of 2,600 officers and men; under ordinary circumstances 5 per cent of the command, or 5,000 men, are constantly sick and wounded, while after a battle the noneffective list is swelled to 10 per cent, or 10,000 men. An accident of date of commission may make any one of you gentlemen the medical director of this force. What would you do after reporting to the commanding general and finding yourself face to face with the responsibilities of such a position? There is no time to learn and no one to advise with; each branch of the service has all it can do for itself, and you are practically alone, with the knowledge that each day of unaccustomed field life will, slowly but surely, add to your minimum of noneffective sick. You also know that there must quickly be a fight, involving a necessity for the care of an additional 10 per cent of wounded. The efficiency of that army, the care of its sick and wounded, and your own reputation depend upon your doing the right thing, *then and there.*

If advantage has been taken of the opportunities furnished to all surgeons of the national guard for thoroughly learning these comprehensive duties, you will find that familiarity with those of an adjutant enable you immediately to establish order through a record system; to secure needful shelter by correctly preparing the necessary requisitions upon the quartermaster, to secure proper food in a similar manner from the commissary, to properly place and regulate the men of your hospital corps as any regimental or company commander would do, and finally to preserve discipline and so coördinate the several military systems that all shall work as one harmonious whole under the experience of your training as a commanding officer.

In addition to communications and addresses on military surgery several interesting papers were read on medico-military subjects, such as:

Some Needs of our National Guard, by Lawrence C. Carr, major and surgeon, Ohio N. G.

The Sanitation of Military Camps, by C. M. Woodward, surgeon-general M. S. T.

Tenting on the Old Camp Ground, by C. L. Lindley, Twelfth Infantry, N. G. S. N. Y.—referring to the dangers of stationary camps.

The Sanitary Duties and Rights of Medical Officers as Affecting their Relations with the Commanders of the line, by A. C. Girard, major and surgeon, U. S. Army.

Some Notes on Military Sanitary Organization, by John Van R. Hoff, major and surgeon, U. S. Army.

Maj. Hoff exhibited to the delegates the appliances for field work of the Medical Department of the Army and demonstrated the training and drill of the Hospital Corps by a detachment from the company of instruction at Fort Riley, Kans. The following from the report of the transactions of the association shows the success of this exhibition and the credit achieved by Maj. Hoff and his men:

Maj. Hoff commenced by putting the detachment, consisting of eight men, through a drill, after which he invited the inspection of the surgeons present to the equipments of the men, after which a general explanation was entered into regarding the different tents and their usages, which were erected there as explained, in the same position as they would occupy in active service. The details of every department were lucidly given and were very instructive. After this exhibition Maj. Hoff took his detachment to the exercise ground below, where exhibitions of the following work were given: Bearer drill with field litter; extemporized litters with blanket, coat, and rifle; lifting, lowering, and carrying patients by one, two, three or four bearers; passing obstacles; first aid drill; the application of temporary dressings, utilizing materials ordinarily at hand on the battle field for splints, etc.; assembly of squads; formation and dismissal of detachment.

The neatness and dispatch with which the above exercises were carried out elicited frequent applause, not a single hitch occurring during the exhibition. At each particular branch of the above exercises Maj. Hoff explained in detail the method of instruction and the valuable assistance in time of war of such trained detachments.

After this part of the exercises had been satisfactorily completed and discussed by the gentlemen present, Maj. Hoff invited suggestions from the surgeons present as to what subjects they would like to see the detachment of the Hospital Corps work upon, and the following subjects were called for by the members present: Fracture of right clavicle; dislocation of left shoulder; fracture of right arm, middle third (compound); fracture of left forearm near elbow; hemorrhage from right femoral artery; perforating gunshot wound, left chest; resuscitation of apparently drowned; sunstroke.

These exercises were of a very interesting and educational character. Two men were selected to take the place of wounded men. Maj. Hoff, acting as army surgeon, supposed to be on the battle field, saw the wounded men, and on examining them and finding the nature of their injuries, described such injuries on a tag taken from a book which he carried for that purpose and fastened it to the coat of the wounded man. The Hospital Corps then followed, and on discovering the nature of the injury from the tag, set to work in first-aid dressing. This was done in a thoroughly scientific manner, showing the completeness of the training of said Hospital Corps, and the celerity with which it was done called forth the admiration of those present. Maj. Hoff then catechised the hospital detachment as to why they did certain things in certain cases, and also asked the visiting surgeons to do the same. This was done quite extensively, and the promptness and accuracy of the answers given seemed not only to surprise the questioners, but show a thoroughness of training.

Maj. Hoff, at the conclusion of the exhibition, was highly complimented by all surgeons present.

HEALTH OF THE ARMY.

The health of the Army during the past year must be regarded as satisfactory, because whether the number of admissions be considered, the number constantly sick, the number of deaths or that of discharge for disability, the rates which represent these are lower than those of the previous year, and considerably lower than the corresponding rates of the previous decade.

The admissions to sick report numbered 1,365 per thousand of strength as compared with 1,384 in 1890 and with an annual average of 1,496 during the previous ten years. Of the 1,365 admissions 1,116 were for disease and 249 for injury, as compared with 1,141 and 243 in 1890, and

with 1,250 and 246 during the decade. The number constantly sick was 42.01 per thousand of strength as compared with 42.71 in 1890 and with 43.49 during the decade. The average number of days lost by sickness for each man of the total strength was 15.3 during the year, as against 15.6 and 15.9, respectively, during the previous year and the previous decade. The discharges constituted only 17.23 per thousand men as compared with 23.01 and 31.37, respectively; and the deaths 8.05 as compared with 8.69 and 8.82.

In comparing our statistics with those of certain European armies we are able at last to congratulate ourselves that our discharge rate has been brought down to what may be regarded as the normal; and as this has been accomplished with no corresponding increase in the time lost by sickness it is certainly not due to the retention of sick men on the rolls. It may be attributed to the action of three causes, all of which were operative during the year; greater care in recruiting, greater care in recommending cases for discharge, and the beneficial results of treatment in the Army and Navy General Hospital, Hot Springs, Ark., of rheumatic cases that formerly terminated in discharge instead of in return to duty. The following tabular statement shows how our Army compares with those of certain of the European powers. Our high admission rate indicates merely that our men are taken on sick report whenever excused from any part of their military duty no matter how trivial or temporary the indisposition, while in other armies only the serious or hospital cases are borne on the records.

Army.	Mean strength.	Ratio per 1 000 of mean strength.						Sick time for each soldier.
		Admission.	Deaths.			Discharges.	Constantly noneffi-cient.	
			Disease.	Injury.	Total.			
United States, 1891	23, 269	1, 364. 78	5. 03	3. 02	8. 05	17. 23	42. 01	15. 3
United States, 1890	24, 234	1, 384. 25	5. 25	3. 45	8. 69	23. 01	42. 71	15. 6
United States, 1880–'89	23. 928	1, 496. 08	5. 89	2. 92	8. 82	31. 37	43 49	15. 9
Great Britain (Home) 1889	102, 057	730. 43	3. 88	. 69	4. 57	15. 89	41. 48	15. 8
Italy, 1889	218, 917	749. 27	7. 24	. 71	7. 95	12. 06	33. 87	12. 4
Prussia, Saxony, Würtemberg, 1888–'89	420, 320	758. 89	2. 27	. 92	3. 19	16. 64	28. 76	10. 5

The above statement of the European armies is exclusive of officers. The Italian division, stationed in Africa, had a mean strength of 6,828 men, with an admission rate of 865, and a death rate of 5.6. These troops are not included in the mean strength. 7,807 men of the Italian army were granted sick leaves for periods varying from three months to one year.

In the German army 6,270 additional discharges (14.91 per 1,000 of mean strength) were made of recruits for disabilities contracted prior to conscription.

The principal causes of the 1,365 admissions per 1,000 of strength were injuries, 248.91, the larger proportion of which consisted of contusions, sprains, and incised, lacerated, and contused wounds; influenza, 132.67 per thousand; catarrh and bronchitis, 124.58; diarrheal diseases, 108.21; rheumatism, 81.33; venereal disease, 72.46; malarial diseases, 62.23; vaccina, 62.19; dyspepsia, colic, etc., 56.30; abscesses, boils, etc., 51.10, and alcoholism, 40.01. Of the 42.01 men per 1,000 of strength constantly sick during the year, 8.06 were disabled by injuries, 5.01 by venereal disease, 3.93 by rheumatism, 3.67 by disease of the respiratory system, 3.18 by diseases of the digestive system, and 2.51 by influenza. It is thus seen that although venereal disease takes only fifth place in frequency of admission for disease, it forms the most important disease factor in detracting from the strength and efficiency of the Army.

The five principal causes of admission in our Army, shown above to be injuries, influenza, catarrh and bronchitis, diarrheal diseases, and rheumatism, may be placed beside those of the British, Italian, and German armies with credit to our troops from their relative freedom from venereal and skin diseases. In the home-service strength of the British army the admission rates, per thousand of strength, of the five principal causes, were venereal diseases, 212.10; injuries, 98.52; tegumentary diseases, 72.84; tonsilitis, 61.96, and catarrh and bronchitis, 48.34. In the Italian service venereal, 64.49; catarrh and bronchitis, 37.01; malarial disease, 28.21; diseases of the digestive system, 22.25, and measles, mumps, and other acute specific febrile affections, 15.36. In the German army tegumentary diseases, 196.59; injuries, 158.41; tonsilitis, 71.99; catarrh and bronchitis, 66.70, and diseases of the digestion, 45.66. The low rate of 19.83 for injuries is notable among the Italians, and the venereal rate 26.76 among the Germans.

The average strength of the Army as shown by the returns of the medical department was: White troops 20,909; colored 2,064; Indians 296; a total of 23,269. There was in general terms more sickness among the Indians than among the colored troops, and more among the latter than among the whites. The admissions per thousand were, respectively, 1,797, 1,577, and 1,338. The rate of the colored troops was considerably less than that of 1890, 1,733. The noneffective rate of the Indians was 52.36, of the colored troops 44.12, and of the whites 41.65; the average number of days lost by sickness for each man of the command was 19.1 for the Indians, 16.1 for the colored, and 15.2 for the white troops; the death rate 6.39, 7.11, and 8.40, respectively. The death rate of the colored troops was less than that of the white troops, and considerably less than their own death rate during the previous year and decade, respectively, 11.52 and 11.01.

As may be seen from the following tabular statement the sick rates among our colored troops compare favorably with those of the black troops in the British service.

Comparison between white and black troops, in the English army, serving in the West Indies.

Year.	Rates per 1,000 of mean strength.			
	Admissions.	Deaths.	Discharges.	Constantly non-effective.
1889:				
White	982.1	5.65	9.42	52.49
Colored	1,369	19.58	62.88	82.19
1879–'88:				
White	966.9	14.94	13.57	44.62
Colored	1,114.2	14.81	39.33	62.35

The Indians had no case of alcoholism among their admissions, less typhoid and other acute infectious diseases than either the white or the colored troops, and more venereal diseases, rheumatism, dyspepsia, colic, and constipation; but the greater proportion of their excess of admissions was due to their vaccination on entering the service.

The colored troops had less alcoholism and heatstroke than the whites, but more venereal disease, rheumatism, and diseases of the eye.

The deaths in our Army numbered 213, or 8.08 per thousand of strength; 133, or 5.03 per thousand from disease, and 80, or 3.02 per thousand, from injuries. Of these deaths 6 were due to alchoholism, 12 to typhoid fever, 22 to influenza, 11 to consumption, 20 to pneumonia, 6 each to

diseases of the heart and kidneys, 9 to disease of the liver, 18 to drowning, and 33 to gunshot injuries.

The discharges numbered 412 white soldiers, 43 colored, and 1 Indian, a total of 456, or 17.23 per thousand of strength. In 1890, 614 men were lost by discharge on account of disease or injury. Of the 456 lost during the past year 73 men were disabled by injuries, 82 by epilepsy, insanity, and other diseases of the nervous system, 46 by venereal disease, 42 by pulmonary consumption, 33 by chronic rheumatism, 31 by diseases of the heart and circulation, and 23 each by hernia and diseases of the eye.

Our discharges for venereal disease, 46 men, or 1.74 per thousand of strength, compare favorably with the rate of 2.86 given by 71 discharges in 1890, and with 3.94 given by an annual average of 94 men during the previous ten years. The fall in our discharge rate is also in part accounted for by the loss of only 31 men from diseases of the heart and circulation as compared with 56 men in 1890, and of only 33 by chronic rheumatism as compared with 52. In the one set of cases the influence of the care taken by post surgeons and medical directors prior to issuing certificates of disability may be distinctly recognized, and in the other the beneficial effects of the line of treatment at the General Hospital, Hot Springs, Ark.

HEALTH OF THE MILITARY DEPARTMENTS.

In the military departments the admission rate per thousand of strength varied from 961.05 in the Department of the Columbia to 1,540.59 in the Eastern Department, the Army average being 1,364.78; the rate of nonefficiency from 34.36 in the Department of the Columbia to 45.68 in that of Texas, the Army average being 42.01; the death rate from 6.57 in the Department of Arizona to 13.55 in that of the Platte, the Army rate being 8.05; the rate of discharge for disability from 10.03 in the last-named department to 21.95 in the Department of California, the Army rate being 17.23; the duration of treatment and observation in these cases of discharge varied from 60.9 days in the Department of Texas to 99.6 days in the Department of Dakota, the Army average being 79.8 days. The duration of treatment in the cases returned to duty did not vary much; 10.2 days, the shortest period, was reported from the departments of the East and the Platte, the longest period of 13.4 days from the Department of California, while the average of the Army was 11.2 days.

Taking all the rates into consideration, it would seem as if during the year the Department of the East had the worst record and that of the Columbia certainly the best.

When injuries, venereal diseases, alcoholism, and temporary disability from vaccination are excluded from consideration so as to determine the effect of climatic and other diseases incident to the life of a soldier in the various departments, the Department of the Columbia continues to show the best record, having an admission rate of 609.79 per thousand of strength, with only 19.72 constantly sick. The next best rate of admission, 804.97, is reported from the Department of California, and the next best rate of nonefficiency, 23.03, from the Department of the Missouri. The Department of the East continues to hold the highest admission rate, 1,029.65, but its nonefficiency, 25.13, is exceeded both by the Department of Arizona, 27.76, and that of Texas, 29.15. On this view of the case the last-mentioned department may be considered as having the worst record, since its admission rate of 988.78 falls but little below that of the eastern department.

THE DEPARTMENT OF THE EAST.

This department, with a mean strength of 6,171 men, had the highest admission rate of any of the departments, 1,540.59, as compared with the average of the Army, 1,364.78. This was due to an excess of cases of veneal disease, alcoholism, vaccination, catarrh, influenza, malarial fever, and diarrheal disease. For instance, its venereal rate was 94.15 as compared with the Army rate of 72.46; its alcoholism 52.67 instead of 40.01, and its vaccinations 125.42 instead of 62.19.

Its death and discharge rates differed but little in their totals, although syphilis figured to a larger extent as a cause of discharge than in the Army as a whole.

The constantly sick numbered 43.16 per thousand of strength as against 42.01 in the Army, vaccina and venereal diseases being the main causes of the slight increase.

Omitting the arsenals and posts of less than 100 men, the posts which principally contributed to the excess of sickness in this department were St. Francis Barracks and Fort Barrancas, Fla., the former with an admission rate of 3,121.50 and 55.43 noneffective, the latter with 2,629.63 and no less than 103.33 constantly sick. The two recruiting depots contributed largely also. Columbus Barracks, Ohio, with 2,209.89 admissions and 77.13 noneffective, and Davids Island, New York, with 1,884 and 51.62. Fort Hamilton, N. Y., and Fort McPherson, Ga., also had excessive rates, and Washington Barracks, D. C,, to a smaller extent.

Some of the posts presented excellent records. The constantly sick at Fort Niagara, N. Y., numbered only 17.72 per thousand of strength, and the admissions 808.22. Fort Warren, Mass., and Fort Columbus and West Point, N. Y., also had small rates. Willets Point, N. Y., improved its reputation by an admission rate of only 1,267.22 and a noneffective rate of 28.64.

DEPARTMENT OF THE MISSOURI.

This department had a mean strength of 3,728 men, an admission rate of 1,306.33, a death rate of 8.32, a discharge rate of 16.90, and 40.34 noneffectives, in all differing but little from the Army averages. Malarial fevers were more prevalent, 146.46 as against 62.23 in the Army, but this excess was offset by a somewhat lessened prevalence of vaccina, alcoholism, rheumatism, catarrhs, and tonsilitis.

Forts Reno and Sill, Okla., and Fort Riley, Kans., were the posts that prevented a material lessening of the rates in this department. Their admission rates were, respectively, 2,211.92, 1,947.37, and 1,408.33, and their noneffective rates 59.47, 45.67, and 58.18.

Some of the large posts had excellent records, Fort Leavenworth with its 704 men having only 1,058.24 admissions and 36.32 noneffectives per thousand strength, and the recruiting depot at Jefferson Barracks, Mo., 1,068.49 and 34.62. Fort Brady, Mich., had the low rates of 801.72 and 16.89.

DEPARTMENT OF DAKOTA.

The strength of this department, 3,193 men, gave an admission rate of 1,280.30, a death rate of 6.89, a discharge rate of 13.78, and a noneffective rate of 36.76, all considerably below the average rate of the Army as a whole. A lessened prevalence of malarial fevers, venereal diseases, alcoholism, and vaccina mainly contributed to these results.

Fort Custer, Mont., had the highest rates in this department, 1,985.56 and 59.43. Fort Meade, S. Dak., followed with 1,861.11 and 47.04. Fort Sully, S. Dak., and Fort Keogh, Mont., also were above the average. Fort Assinniboine, Mont., was below the average, but Fort Buford, N. Dak., Camp Poplar River, Mont., and Fort Missoula, Mont., brought down the departmental average by their respective admission rates of 792.68, 891.10, and 983.87, and their noneffective rates of 26.48, 18.85, and 20.90. A number of men in the field also gave low rates.

DEPARTMENT OF THE PLATTE.

The mean strength, 3,690 men, of this department furnished an admission rate of 1,363.14, practically the average rate of the Army; a death rate of 13.55, the excess over the average being chiefly caused by influenza and pneumonia; a discharge rate of only 10.03, and a noneffective rate of 38.11.

Fort Robinson, Nebr., gave the highest admission rate, 2,123.76, but without a corresponding noneffective rate. The same remark applies to Fort Niobrara, Nebr., with its admission rate of 1,747.47. Fort Logan, Colo., had the highest noneffective rate, 76.98, although its admissions were only 1,588.85 per thousand strength. Fort Du Chesne, Utah, had many admissions, but the noneffective rate was low.

The best rates were furnished by Fort Washakie and Fort Russell, Wyo., respectively, 861.84 and 870.02, with 23.41 and 25.57 noneffective per thousand.

DEPARTMENT OF TEXAS.

The mean strength of this department was 1,644 men, with all the rates somewhat higher than in the Army at large; admission, 1,463.50; death, 10.95; discharge, 19.46; noneffectiveness, 45.68.

The admissions show a somewhat exaggerated prevalence of malarial and diarrheal diseases, venereal and alcoholism, which is not offset by a lessened prevalence of vaccina, influenza, catarrh, and bronchitis. Alcoholism, venereal diseases, and pulmonary consumption contributed to the increased death rate; gunshot wounds and heart disease to the increased discharge rate. Malarial fever, venereal diseases, bronchitis, consumption, heart disease, and diseases of the digestive system contributed to the increased nonefficiency, while vaccina and rheumatism had noneffective rates below the average.

The large rates of this department were mainly due to sickness at Fort Sam Houston, Tex., its admission rate being 1,985.97, and its noneffective rate 56.59. Fort Clark, the next largest post, had good rates—1,256.72 and 39.61. Most of the smaller posts had high rates, but Fort Brown, Tex., was exceptional in this respect—790.32 and 38.18.

DEPARTMENT OF ARIZONA.

This department had a mean strength of 2,282 men, with an admission rate of 1,376.42, a death rate of 6.57, a discharge rate of 19.28, and a noneffective rate of 43.03, the whole differing but little from the average of the Army. The malarial admission rate was only 36.81 as compared with 62.23 in the Army as a whole. There was also less venereal disease and alcoholism, but more rheumatism, neuralgia, and diseases of the digestive system.

Fort Apache, Ariz., had the highest admission rate, 2,362.38, as also the highest noneffective rate, 62.27, if San Diego Barracks, Cal.,

be excluded, as a number of consumptives from other posts sent there for the sake of the equable climate raised its rate of noneffectiveness to 90.15. Fort Wingate, N. Mex., had an admission rate of 1,776.47, but its noneffective rate was not correspondingly high. Fort Bayard, N. Mex., Whipple Barracks, and Forts Bowie and Grant, Ariz., had fair rates, while Fort Huachuca, Ariz., continued its excellent record of 1890 throughout the past year—admission rate, 601.94—noneffective, 19.39.

DEPARTMENT OF CALIFORNIA.

The mean strength of this department was 1,108 men; admission rate, 1,211.19: death rate, 7.22; discharge rate, 18.95, and noneffective rate, 44.32. Fewer cases of diarrhea, vaccina, alcoholism, and rheumatism were recorded than in the Army as a whole, but the cases of venereal disease were relatively large—97.47 per thousand as compared with 72.46.

The two large posts, the Presidio and Angel Island, had rates higher than the average of the department, respectively, 1,424.11 and 1,310.34 for the admissions, and 54.88 and 50.04 for the ratio constantly sick. At the others the rates were considerably lower, except at Alcatraz Island, where the noneffective rate was high.

DEPARTMENT OF THE COLUMBIA.

The mean strength of this department was 1,412 men; admission rate, 961.05; death rate, 8.50; discharge rate, 21.95, and noneffectiveness, 34.36. These low rates were due to a lessened prevalence of nearly all classes of disease, the most notable exception being alcoholism, the rate of which was 46.74 as compared with 40.01 in the Army.

At Fort Canby, Wash., both the admission rate, 1,730, and the noneffective rate, 47.15, exceeded the Army rates. At Fort Wallawalla, Wash., the noneffective rate was high, 52.32. With these exceptions the records of the posts in this department were excellent. The large post at Vancouver Barracks, Wash., had only 841.49 admissions and 33.51 noneffectives per thousand of strength, and Fort Spokane, Wash., 696.77 and 24.99.

HEALTH OF INDIVIDUAL POSTS.

Reports were received during the year from 124 military stations: (1) Thirteen garrisoned by 400 to 700 men each, average 487; (2) seventeen garrisoned by 300 to 400 men each, average 337; (3) seventeen with 200 to 300 men each, average 241; (4) thirty with 100 to 200 men each, average 131; (5) forty-seven having less than 100 each, average 47. Reports were received also from a mean strength of 899 men on field service during the year.

(1) The thirteen large posts had a mean strength of 6,333 men. Their sick rates were considerably in excess of those given by the Army as a whole. Thus their rate of admission was 1,457.29 as compared with 1,364.78, and their rate of nonefficiency 46.04 as compared with 42.01; but their average rates of death and discharge did not differ much from the average of the Army.

Nine of these posts had excellent records during the past year. The average admission rate of these nine was 1,110 per thousand of strength, with 34 constantly sick; but the high rates of the four other posts raise the rates of the thirteen to the numbers above stated. There can be no doubt that the lessened rate of noneffectiveness from sick-

ness at the majority of these posts is due to the sanitary care taken of the soldier, not merely of his person as to cleanliness, food, clothing, exercise, and amusements, but also to those measures of general sanitation which not only supply a garrison with good water and uncontaminated air, without as well as within the buildings, but which insure the immediate removal of garbage, waste water, and excreta, and provide healthful, well-plumbed, well-drained, and well-ventilated squad rooms.

Vancouver Barracks, Wash., is credited with the best record, 841.49 admissions and 35.51 constantly sick per thousand of strength. These rates are a great improvement on the previous record of this post, but good as it is it might have been better, as the reports show among the men of the garrison relatively more drunkenness requiring medical treatment than among the men of the Army as a whole. Fort Douglas, Utah; Jefferson Barracks, Mo.; Fort Leavenworth, Kans., and Fort Assinniboine, Mont., come next with somewhat over 1,000 admissions and from 30 to 36 constantly sick per thousand of strength.

Fort Douglas had more influenza and alcoholism than the average of the Army, but less malarial disease, diarrhea, and catarrh (probably because the cases were all reported as influenza), somewhat less venereal disease, and much fewer accidents and injuries. Jefferson Barracks had less influenza, diarrhea, injuries, and alcoholism than the Army average, but more malarial fevers, vaccina, and venereal—146.12 of the last. Indeed, if at this depot the results of vaccination of the recruits are deducted from its record it would contest first place with Vancouver Barracks, notwithstanding its high rate for venereal disease. Fort Leavenworth had less diarrhea, vaccina, and catarrhs than the average, but more venereal, and Fort Assinniboine less malarial and diarrheal diseases, venereal, and rheumatism, but more influenza. Omaha Barracks, Nebr., and Fort Monroe, Va., approach the Army average, although the former had a smaller admission rate and the latter a smaller noneffective rate.

Columbus Barracks, Ohio, had the highest rates, 2,209.89 admissions and 77.13 noneffectives per thousand of strength, closely followed by Fort Robinson, Nebr., which, owing to an excess of influenza, injuries, and alcoholism, had 2,123.76 admissions, although its noneffective rate was only 43.16. Fort Sam Houston, Tex., is perhaps entitled to second place, as with nearly 2,000 of an admission rate it had 56.59 noneffective, its excess consisting of malarial, diarrheal, and venereal cases, catarrhs, and injuries. Fort Riley, Kans., Davids Island, New York, and the Presidio of San Francisco followed. The high nonefficient rate at Fort Riley was due to the prolonged treatment of gunshot injuries received in the Sioux campaign. The rates for disease at this post are less than the Army average, and it is therefore included among the nine above mentioned as having excellent records for the year. So at the depot at Davids Island the excess of its admission rate was wholly caused by the vaccination of recruits. A rate of 619.74 for vaccina, with 18.77 constantly sick from this cause, reduces the rates at this station to 1,265.08 for admissions and 32.85 for noneffectiveness. It had less malarial disease, influenza, venereal disease, and alcoholism than the average of the Army, its rate for venereal being 63.98 as compared with 72.46, and for alcoholism 10.97 as compared with 40.01. The excess of sickness at the Presidio was due to influenza and venereal disease.

Of the three recruiting depots, two have been seen to have sick rates not only lower than the average of the large military stations, but much

lower than the lesser rates of the Army as a whole. Jefferson Barracks, indeed, may successfully contest with Vancouver Barracks the title to the best record among this group of posts, because when allowance is made for vaccinations the admission rate of the depot falls to 872 as against 841 at Vancouver, and the noneffective rate to 28 as against 33.51. This shows the effect of sanitary improvements. Formerly this post was noted as having the largest noneffective rate in the Army. In 1888 it occupied the third place on the list of unhealthy posts; in 1890 its name did not appear in the list of twenty posts having the highest rates of admission and nonefficiency, and now it seems to be entering the list of candidates for the best record. The record at Davids Island is also satisfactory when compared with the Army rate. The depot at Columbus Barracks, Ohio, gives, on the contrary, the highest rates of any in this group of large posts. Deducting its vaccinations, there remains the high admission rate of 1,824.23 and a noneffective rate of 63.57. This excess of sickness was caused mainly by venereal diseases, influenza, tonsilitis, and diseases of the digestive system. Its venereal cases amounted to 266.20 per thousand of strength, as compared with 146.12 at Jefferson Barracks and 63.98 at Davids Island. The rates of noneffectiveness were, respectively, 15.95, 6.60, and 3.13. Nevertheless there is a gratifying improvement in the condition at Columbus Barracks as regards the prevalence of venereal diseases, for in 1890 the admission rate was 462 per thousand of strength, with 28.99 of nonefficiency; and while the discharges then numbered 24, they were reduced to 6 during the past year. The rates for alcoholism were low among the recruits—31.25 at Jefferson Barracks, 13.65 at Columbus Barracks, and 10.97 at Davids Island.

Fort Riley, Kans., had the largest number of deaths and discharges, as well as the largest rates, 9 deaths or 15 per thousand of strength, and 17 discharges or 28.33 per thousand; but 8 of the former and 11 of the latter were the result of gunshot wounds and other injuries, mostly received in the operations against the Sioux Indians. Davids Island had the smallest rates—deaths 1.83 and discharges 5.48 per thousand.

(2) The group of seventeen stations garrisoned by 300 to 400 men each had an aggregate mean strength of 5,736 men. The number taken sick was relatively larger than in the group just described, the admission rate having been 1,556.49 per thousand of strength. but the other rates did not differ much from the Army average.

Eight of these posts—Fort McPherson, Ga.; Fort Reno, Okla.; Fort Custer, Mont.; Fort Sill, Okla.; Fort Meade, S. Dak.; Washington Barracks, D. C.; Fort Wingate, N. Mex.; and Fort Niobrara, Nebr.; had admission rates ranging from 2,394.98 to 1,747.47 and noneffective from 61.12 to 42.68. Madison Barracks, N. Y., had a slight excess of admissions, but its noneffective rate was low; at Fort Bayard, N. Mex., this condition was reversed. The remaining seven posts were below the Army average.

The large sick rate at Fort McPherson was due to a general increased prevalence of nearly all classes of disease, but particularly to influenza and bronchitis, malarial fevers and diarrhea, three times as much venereal disease, and twice as much drunkenness as in the Army generally. The low personal morale of this garrison has no doubt much to do with the incidence of disease upon its members. Malarial disease, aided by diarrhea and injuries, is the chief cause of the great excess at Fort Reno, this post during the year having superseded Fort Sill as the most malarious military station so far as concerns noneffectiveness, although the latter continues to have the largest number of admissions. At Fort

Custer venereal diseases, influenza, and injuries created the excess; at Fort Sill, malarial fevers and diarrhea; at Fort Meade influenza, diseases of the digestion, and injuries; at Washington Barracks, influenza, malarial fever, and venereal; at Fort Wingate, influenza, vaccina, rheumatism, and injuries; and at Fort Niobrara, influenza, vaccina, and injuries.

Some of the records of the seven remaining posts are exceedingly gratifying. Fort D. A. Russell, Wyo., and West Point, N. Y., had admission rates, respectively, of 870.02 and 981.23, and noneffective rates of 25.57 and 25.46. That of West Point is, however, the better record, for its sickness was materially increased by an excess of influenza, while an excess of venereal raised the rates at the other post. The rates at the five remaining posts are generally well below the average of the Army. The lessened sickness among the engineers at Willets Point would have materially improved its record had the rate for alcoholism been reduced to the average of the Army.

The death rate ranged from zero at Fort Wingate to 16.56 at Fort Reno, where 5 deaths occurred—3 from typhoid fever, 1 from kidney disease, and 1 from injury.

The discharge rate varied from 3.16 at Madison Barracks to 50.16 at Fort McPherson, where 16 men were disabled—6 by venerea, 17 by developmental diseases, 1 by consumption, and 2 by injuries.

(3) The seventeen posts garrisoned by 200 to 300 men had an aggregate strength of 4,101 men. The admission rate was 1,318.46 and the noneffective 43.34, the former a little lower, the latter a little higher, than the corresponding average of the Army. The discharge rate was a little higher and the death rate materially so—11.95, as compared with 8.05.

Only four of these posts had high admission rates. Fort Apache, Ariz., continues to present the worst record in this respect, 2,362.38 per thousand of strength, caused less by personal contagion and bad habits (for the rates for venereal and alcoholism are low) than by conditions, many of which are no doubt susceptible of removal. Influenza, catarrhs, rheumatism, diarrhea and diseases of the digestive system, vaccination, and injuries were responsible for the high rate. Fort Hamilton, N. Y., followed with a rate of 2,329.32, occasioned mainly by influenza, catarrhs and tonsilitis, diarrhea, and injury. Here, also, venereal and alcoholism were not excessive, viewed from the standpoint of the Army average. The rate at Fort Duchesne, Utah, was 1,676.33, due to influenza, diseases of the digestive system, and injuries. The excess at Fort Logan, Colo., where the rate was 1,588.55, was wholly due to the epidemic of influenza. These four posts, with the exception of Fort Duchesne, had high noneffective rates, that of Fort Logan being the highest, 76.98. On the other hand, some of the posts in this group combined good admission rates with rather high rates of noneffectiveness. Fort Yates, N. Dak., Fort Wallawalla, Wash., Angel Island, California, and Whipple Barracks, Ariz., are among this number.

As Fort Apache continues to hold the worst, so Fort Huachuca continues to present the best record among these seventeen posts: admission 601.94, noneffective 19.39. Fort Sherman, Idaho, takes second place, with 879 and 25.50, a gratifying improvement on its rates for the previous year, 1,838.24 and 44.15. Fort Columbus, N. Y., takes third rank, with 853.66 and 30.45. The others range in their admission rates from 1,000 to 1,300.

No death occurred at Whipple Barracks, Ariz., Fort Supply, Ind. T., or Fort Duchesne, Utah. The enormous rate of 59.23 was given by 17

deaths at Fort Logan, Colo.—12 from influenza, 1 from alcoholism, 1 from consumption, and 2 from injuries.

No discharge was made from Fort Columbus, N. Y., nor Fort Adams, R. I. The highest rate, 53.72, was furnished by 13 cases at Whipple Barracks—3 from syphilis, 2 from injuries, the remainder scattered among various diseases, among which was 1 from alcoholism.

(4) The thirty stations garrisoned by 100 to 200 men each had a mean aggregate strength of 3,936 men. Their average rates bear satisfactory comparison with those of the Army—admission 1,239.58, noneffectiveness 38.59, death 7.37, discharge 17.53.

Only four of these posts had an admission rate so large as to merit special notice. St. Francis Barracks, Fla., furnished the highest rate of any post of the Army, 3,121.50, the excess due principally to diarrhea, headache, and diseases of the digestive system and of the integument, vaccina, alcoholism, and injuries. Fort Barrancas, Fla., followed with 2,629.63, due to influenza, diarrhea, rheumatism, venereal, and vaccina. Jackson Barracks, La., came next with 1,771.43, due to malarial and venereal diseases, rheumatism, and alcoholism. Lastly the rate of 1,730 was furnished by Fort Canby, Wash., owing chiefly to influenza, diarrhea, alcoholism, and rheumatism. Fort Barrancas had the highest noneffective rate of any post in the Army, 103.33.

Ten of the thirty posts had admission rates of less than 1,000 per thousand of strength, and the remainder approached more or less to the Army average. Among the posts having low rates may be mentioned Fort Spokane, Wash., 696.77; Fort Warren, Mass., 702.97; Fort Buford, N. Dak., 792.68; Fort Brady, Mich., 801.72; Fort Niagara, N. Y., 808.22, and the Leavenworth prison guard, Kans., 816.51. Including Fort Barrancas, ten of the posts had higher noneffective rates than that of the Army and twenty lower rates. The lowest were furnished by Fort Brady, 16.89; Fort Niagara, 17.72; and Camp Poplar River, Mont., 18.85.

The highest death rate was at St. Francis Barracks, where 28.04 was furnished by 3 deaths; 1 typho-malarial fever, 1 liver disease, and 1 injury.

The highest discharge rate came from the guard at Leavenworth military prison, 45.87, caused by 5 cases; but Fort Wadsworth, N. Y., and Fort Davis, Tex., had each also 5 cases, and Fort McHenry, Md., and Fort Thomas, Ky., 6 each, although the larger garrison in each of these instances gave a lower rate than was furnished by the prison guard.

(5) The forty-seven small stations, garrisoned each by less than 100 men, had an aggregate strength of 2,294 men. Their average sick rates were considerably below those of the Army, their death rate somewhat higher.

It is hardly worth while to speak of the rates of these posts individually, because a few cases more or less make such a considerable difference in them. With few exceptions their record of health for the year may be considered satisfactory, as for instance, Fort Schuyler, N. Y., with 94 men, 797.87 admission rate, and 29.81 noneffective; Benicia Barracks, Cal., 90 men, 933.33 and 24.14; Fort Randall, S. Dak., 82 men, 1,000 and 31.67; Fort Bennett, N. Dak., 81 men, 617.28 and 19.61; etc. The exceptions are Fort Thomas, Ariz., 58 men, admission rate 1,810.34, with the noneffective only 33.59, the excess of cases due to malarial fevers, diarrhea, rheumatism, diseases of the eye, colic, and constipation. Camp Eagle Pass, Tex., 52 men, 1,788.46 and 49.21, due to malarial fever, diarrhea, and alcoholism. Camp Oklahoma,

Okla., 51 men, 1,666.67 and 48.56, due to influenza, malarial, and venereal diseases, and diseases of the eye and the integument. Camp Pena Colorado. Tex., 46 men, 1,695.65 and 29.42, due to influenza, alcoholism, headache, and rheumatism. San Diego Barracks, Cal., had a small admission rate; its noneffective rate of 90.15 being due to patients from other posts sent, as already stated, to derive benefit from its equable climate.

Of all our military stations St. Francis Barracks, Fla., had the highest admission rate, 3,121.50 per thousand of strength; Fort Barrancas, Fla., comes second; Fort McPherson, Ga., third; followed in order by Fort Apache, Ariz.; Fort Hamilton, N. Y.; Fort Reno, Okla.; Columbus Barracks, Ohio, and Fort Robinson, Nebr., all having an admission rate of over 2,000.

Fort Barrancas had the highest noneffective rate, 103.33; San Diego Barracks comes second, with 90.15, although, for reasons already stated, it should be dropped from consideration, and this place given to Columbus Barracks, Ohio, with its 77.13 per thousand of strength constantly sick. Fort Logan, Colo., Jackson Barracks, La., Fort Apache, Ariz., and Fort McPherson, Ga., follow in order of lessening rates.

To watch the changes in the sick rates of our military posts from year to year forms an interesting and instructive study. Sometimes the sanitary reports throw light upon the changes, but as often they do not indicate the probable causes. Occasionally the mental character and methods of a medical officer make a considerable difference in the totality of a sick report. An officer strict in his views of what is right and proper may hold a man to duty who for the same indisposition might be taken on sick report by another officer of a more sympathetic character. Instances of changes in the sick reports of posts due to change in the medical attendance might be cited. When, however, increased prevalence of disease is manifested at a post throughout the service of many medical officers, the results of their personal equation may be regarded as neutralized, and the cause or causes of the increasing sick list must be sought for elsewhere. By way of illustration, the two posts of Fort Apache, Ariz., and Fort Hamilton, N. Y., have for several years back been becoming gradually more and more unhealthy, and the sanitary reports do not clearly indicate why. Special investigation in such cases is needful and will hereafter be undertaken.

THE PREVALENCE OF SPECIAL DISEASES.

SPECIFIC FEBRILE AND ACUTE INFECTIOUS DISEASES.

These diseases held high rates during the year, chiefly owing to the recrudescence of the epidemic of influenza. The admission rate was 149.04 per thousand of strength, but when the cases of influenza are deducted there remains only 16.37, of which 10.32 was due to measles and mumps, and 3.95 to typhoid fever.

Cerebrospinal fever.—Only 2 cases of this disease were reported, both fatal, one from the field in the Department of the Platte, the other at Angel Island, Cal.

Dengue.—One case was reported from Fort McIntosh, Tex.

Chicken pox.—Sixteen cases among the troops of nine posts. The disease appeared first usually among the children and from them spread to the soldiers.

Smallpox occurred at five posts, 1 case at each. The measures adopted by our medical officers, isolation of the patient, immediate

vaccination of those exposed to the infection, as also of all those whose vaccinal protection was considered doubtful, with thorough disinfection during the progress of the case and after its termination, had the desired effect of restricting the disease to the individual who imported it into the garrison, except at Fort McIntosh, Tex., where 2 cases of varioloid were developed.

The only abnormal results of attempts at vaccination were reported from Whipple Barracks, Ariz. Fifty men belonging to the Indian company were taken on sick report, 20 of whom were treated in hospital. In 8 cases the lesions were particularly severe; extensive ulcerations, sloughs, and metastatic abscesses supervened with much constitutional disturbance. Whether these results were due to impure virus or to an exalted susceptibility of the Indian was at first uncertain until a successful and normal vaccination of the women and children with a different crust determined the cause.

Five cases of *diphtheria* occurred, 1 at each of five posts, without any spread of the disease to the families. In one instance, Columbus Barracks, Ohio, it spread from a family to a member of the hospital corps who had been assisting in nursing. Three children of six affected died. The disease was contracted in the city by one of the children. At Frankford Arsenal four children of one family succumbed to the disease and one child of another family became attacked but survived; two cases resulted favorably at West Point, N. Y., and one at Fort Buford, N. Dak.

Scarlet fever.—Three cases, not fatal, occurred among the troops, one each at Fort Logan, Colo., Fort Leavenworth, Kans., and Vancouver Barracks, Wash. At the first-named post one case in the family of an officer was contracted in the city of Denver, Colo. Children at several other posts became affected but in every instance the restrictive measures were successful. One case was reported from each of the following posts: Fort McHenry, Md., Washington Barracks, D. C., Rock Island Arsenal, Ill., Fort Clark, Tex., Fort Niobrara, Nebr., and Fort Yates, N. Dak. Two cases were reported from Fort Supply, Ind. T., four from Fort Wayne, Mich., and seven cases restricted to two families from Boise Barracks, Idaho. Strict quarantine and measures of disinfection were enforced at all these posts with manifestly successful results.

Measles.—The recruiting depot at Columbus Barracks, Ohio, furnished more than one-half of the cases reported among the men, 93 out of a total of 180. Davids Island had 14, but singularly enough no case was reported from Jefferson Barracks. Nine posts had 1 case each, two posts 2 each, four 3, three 4, two 5, two 6, two 7, one 14, and one 93. At Columbus Barracks the epidemic began among the recruits with four cases in February. The disease did not subside until the return of warm weather. At Fort Wingate, N. Mex., where 7 cases occurred, the disease was introduced by a soldier from Camp Lowell, Ariz., who no doubt contracted it while en route. At Fort Supply, Ind. T., whence 5 cases were reported, besides 3 cases among the children, the disease was brought to the post by a soldier who had been on furlough. At Fort Myer, Va., 3 soldiers and 7 children became affected. Fort Wayne, Mich., which reported but one soldier affected, had 7 cases among children of officers. Two posts into which the disease was introduced had no case of the disease among the men; Fort Schuyler, N. Y., had 2 cases in the family of an enlisted man, and Fort Bliss, Tex., had 9 cases contracted in the public schools of El Paso. The disease does not appear to have been fatal in any of these cases.

Sixty cases of *mumps* were reported from thirteen posts. Columbus Barracks had 33 of these coincident with its epidemic of measles. The other cases were scattered at various posts.

Two cases of *whooping cough* were reported, one at Fort Thomas, Ky., and the other at Benicia Arsenal, Cal. Besides these cases there occurred among children 3 at Fort McHenry, Md., 2 at San Diego Barracks, Cal., and about 27 at Fort Sill, Okla. The origin of the disease at this last post seems to have baffled all inquiry. The family first affected had not been out of the post for six months and there was no whooping cough among the children of the settlers and wood choppers of the vicinity Ultimately the infection was assumed to have been introduced by some of the peddlers of vegetables from the Chickasaw Nation, who generally have several of their children in the wagon with them.

Enteric fever.—Ninety-two cases were reported, giving 3.95 rate per thousand of strength as compared with 5.24 in 1890, and 5.17 in the previous decade. Twelve deaths and two discharges resulted from these attacks. As they were distributed among thirty-six posts the cases must be considered as sporadic rather than as constituting a local epidemic at any one post. Fort Myer, Va., had 15 cases; Fort Douglas, Utah, 9; Fort Reno, Okla., 7, while the remaining 61 were scattered at various posts, no one of which had more than 4 cases. Concerning the cases at Fort Myer, Maj. R. H. White remarks:

During the three years of my service here a continued fever has appeared in August and September that has given an aggregate of 87 cases and implied a total loss of 1,388 days of service. This fever is uninfluenced in its duration by quinine, and may be safely called typhoid, and for this reason the opinion is ventured that the sanitary condition of the post may be improved in respect to its subsoil and surface drainage, and to its water supply. To bad drainage and impure water the causation of typhoid fever is referred by the highest authority, and it is obvious that heavy rainfalls remain stagnant here too long. and that the water supply is of surface origin and taken from the immediate vicinity of the cemetery. The fever in question is preventable and should be prevented.

There seems to be no doubt that where the subsoil water is high malarial fevers predominate, and that where improvements have lowered the ground-water level to a certain extent the malarial fevers are replaced by typhoid with or without an intermediary typhomalarial stage. Fort Myer seems to have reached that stage of its history when typhoid has superseded the malarial remittents that twenty years ago prostrated the men who then garrisoned that site under its old name of Fort Whipple. A good system of underdrainage would no doubt put an end to the autumnal fevers at Fort Myer.

Capt. J. L. Powell furnishes an interesting report of 5 cases at Fort Randall, S. Dak. Two of these were undoubted importations from Fort Douglas, Utah; one was in the person of a hospital corps private on duty in the ward with these men, the fourth occurred by contact with the first during convalescence, and the last in a boy who carried the soiled linen to the laundress.

FORT RANDALL, S. DAK.—*Capt. J. L. Powell:* By reference to the register of patients for the months of August, September, October, and November, it will be seen that during that period there occurred at this post five cases of typhoid fever, four of which were among the enlisted men of the command.

The first case was that of Musician William Boll, æt 24, of F Company, Twenty-first Infantry. He was admitted to hospital on August 23, three days after the arrival of his company at this post from Fort Douglas, Utah, where it had been stationed eight months. He was discharged cured, on October 1, after a comparatively mild attack. This man states that he had been feeling badly for some time before leaving Fort Douglas, and that on the second day out, while on the train, he had a headache and stiff neck and felt hot and cold alternately.

The next case was that of Private James E. McAvoy, æt 24, of the same company. The premonitory symptoms in his case were about the same as in Boll's, but, though he had been ailing for some time before he left Fort Douglas, he did not come up on the morning sick book until September 10, when he was admitted to hospital.

The third case was that of Sergt. Louis T. Deichmann, æt 29, of H Company, Twenty-first Infantry, which constituted a part of the command en route from Fort Douglas. He was admitted to hospital October 28, 1891. In its clinical aspects this case presented more features of interest than either of the others. For about twenty days prior to his admission this man had been ailing, but it is evident that the disease had passed the stage of incubation and invasion before he was taken into hospital, as his temperature was 102.8° at the time. Towards the end of the first week and through the second he was very ill, his highest temperature was 106.3°. There was active delirium, while dry, thick sordes covered his lips, teeth, and tongue, and there were involuntary evacuations of the bowels and bladder in the bed. On the night of November 2, six days after his admission, he had a violent hemorrhage from the nose which threatened to be fatal, but which was finally checked by plugging the nares. On the 4th it again became threatening and required additional packing of the nasal passages.

The fourth case was that of Private William Dorsey, Hospital Corps, æt 28, admitted to hospital November 1. He was in charge of the ward when Boll was taken sick, and nursed him, and also McAvoy, until September 19, a period of twenty-eight days, when he was relieved by another nurse. His was a mild case from beginning to end.

While temporarily absent from my station the first patient, Musician Boll, was treated and discharged from the hospital by Capt. Freeman V. Walker, so that I can not speak from personal knowledge of the clinical aspects of this case. In the other three cases the characteristic rose-colored eruption was common to all, and in the case of Sergeant Deichmann it was very abundant. In none of these cases, save one, that of Private Dorsey, could a typical temperature curve be looked for, as in the beginning they were all modified by some mode of treatment. Boll and McAvoy had cold baths, antipyrin, and quinine, at different times. Deichmann had two doses of antipyrin, 15 grains each, at two hours interval, in the evening of the day he entered hospital, when his temperature had risen to 105.2°. On October 30, his temperature being 106.3°, the same doses were repeated. On November 1, to relieve severe headache and induce sleep, he got 15 grains bromide potash and 10 grains chloral. Aside from this his treatment was nourishing and expectant, consisting of milk punch, milk and egg beaten up together, and beef tea according to directions. Dorsey's treatment was entirely nourishing and expectant throughout.

It is thought that what has been stated in general terms of the clinical aspects of these cases, will be amply sufficient to identify the disease and establish the absolute correctness of the diagnosis. I pass on then to a consideration of their origin, the point of greatest interest, inasmuch as upon its determination rests the question as to whether anywhere in or about Fort Randall exists a focus of infection for the typhoid poison. A very superficial examination of the foregoing histories will, I think, be sufficient to show that the fever was brought here by the command that came from Fort Douglas.

It will be observed that Boll had been in the post but three days before he was taken on the sick report. McAvoy was here from August 20 to September 10, an interval of twenty-one days before he reported sick. It should be noted, however, that the first observation of his temperature showed it to be 103°.

The determination of the exact date of infection and the date of the commencement of the disease are alike matters of great difficulty, but any man who presents himself with a temperature of 103° would ordinarily be set down as well out of sight of the stage of incubation. Liebermeister says that Lothholz, who worked under Gerhardt's direction, observed in the epidemic which occurred in the neighborhood of Jena that the average period of incubation was three weeks; the shortest period eighteen days; the longest twenty-eight days. Within this limit it is easy to find a place for McAvoy. I therefore think the conclusion is inevitable that both these men (Boll and McAvoy) contracted the seeds of the disease before their arrival at this post. The very nature of Dorsey's duties will at once suggest the origin of the disease in his case. With Sergt. Deichmann, however, it is different. He was not admitted to hospital, as stated, until October 28, two months and eight days after his arrival at the post. Allowing the widest range for probabilities, his case can not be brought within the limits given by Lothholz, thereby excluding the possibility of his having contracted the disease outside of Fort Randall. It becomes necessary, therefore, to widen the field of our investigation in search of a new focus of infection. What and where was it? Infection from the drinking water at this post may safely be excluded. It is the same that has been used for years, is brought from the Missouri River in water wagons, and when the suspended matters have subsided is of very good quality. There is no communication by open or closed sewer from the

post to the river. Neither from the records here nor from persons who have resided here or in the vicinity longest can I learn of a case of typhoid fever having occurred at Fort Randall before. In further confirmation of the view already expressed, it is to be borne in mind that G Company of the Twenty-first Infantry, under orders to change station, arrived at this post from Fort Sidney, Nebr., on the 22d of May last. The sick list of this company has been exceptionally small, and not a single case of fever of any description has so far made its appearance in the company since its arrival here. It occupies barracks just across the parade ground from the other two companies and about 100 yards distant.

The hygienic and sanitary surroundings of these three companies, the one arriving in May and the other two in August, with reference to food, water supply, and barracks, are as nearly identical as they could well be, and all excellent. This is a highly significant fact in connection with the origin of the cases that have been under treatment. With this, I think, it has been demonstrated, whatever may have been the vehicle of infection in Boll's and McAvey's cases, that a polluted water supply must be entirely eliminated as a medium of conveyance for the typhoid poison in Deichmann's case. A searching investigation furnishes but one other possible clew. About one week, as well as I can ascertain, before Boll was discharged from hospital he went over to the barracks of H Company, and from the rear balcony for some two hours or more witnessed the progress of a game of baseball. He was with Deichmann a great deal of the time, went into the barracks with him, and had from him the loan of some books to read while on sick report. If it is maintained that Deichman contracted the disease in Douglas it would be giving to it a stage of incubation much longer than any ever previously recorded, so far as I have been able to ascertain from the literature on the subject. On the other hand, while both Liebermeister and Niemeyer (the former a pupil of the latter) speak of it as a miasmatic, contagious disease, Liebermeister distinctly states that typhoid fever is never transmitted directly from person to person. Niemeyer takes the opposite view, and to quote his own words says: "Some physicians still doubt the contagiousness of abdominal typhus, or at least consider it as not proved; but such views must not be brought to the bedside of the patient. Here the fact that the noncontagiousness has not been proved must make us act as if its contagiousness had been demonstrated. The sick should be isolated from the well, and only those attendants required in caring for the patient should be allowed in his vicinity."

Even if we accept Niemeyer's view it might be suggested that Boll was too far recovered from the disease to communicate it to Deichmann, but it could not in the present state of our knowledge be positively asserted. Whichever way we look we are confronted by difficulties which very much militate against the formation of a positive opinion.

The next case to be considered is that of John Cassidy, a youth 17 years of age, the son of the hospital matron. I was called to see him on October 9. I found him and a younger brother (Andrew), aged 14, sick in the same bed. Both had been ailing pretty much the same way for two or three days, feeling chilly, then feverish and weak, with poor appetite and headache. I had no suspicion of any acute infectious disease in either case, but thought they had mild malarial attacks due to working in a low bottom under the rays of a very hot sun. I accordingly directed 3 grains hydrarg. cum creta for each at bedtime, and 3 grains of sulphate quinia every three hours. The next day the quinia was continued, and in addition each got 10 grains of antipyrine, which was repeated in two hours, to reduce temperature. Under this treatment Andrew was out and at work by the 14th. John, however, did not improve, and on two evenings his temperature went up to 105°. I then increased the quinia to 6 grains three times a day, and gave antipyrine pro re nata, but his headache continued severe, his tongue had a thick brown coating, he had no appetite, and there was a slight cough bronchial in character. On the third day after taking to bed he had some nose-bleed, and on the seventh two or three lenticular rose-colored spots made their appearance on the abdomen just below the ribs.

Whatever may have been the original character of the foregoing case, certain it is that before it proceeded very far some of the most important diagnostic features belonging to the clinical history of typhoid fever developed themselves. The boy was sick from October 9 to October 25, a period of but seventeen days. There was no period of convalescence, and his recovery was as abrupt as was the onset of the disease. It did not yield to the quinine treatment, differing in this respect from his brother Andrew. The mode of life of these two boys had been identical for months. They worked together in the same field, they ate the same food, drank the same water, and slept in the same room. That Andrew's was a malarial attack pure and simple is shown not only by the fact of his prompt recovery under the quinine treatment, but by the further fact that on October 28, just two weeks after returning to work, he had another seizure, and under the same treatment recovered even more promptly than he did from his first attack.

But we now come to the essential facts. During the illness of the typhoid patients

at the hospital these two brothers alternately came for the bed linen on Mondays and brought it back on Friday or Saturday. Neither one of them ever came near the persons of the sick men, but they got the hamper of clothes out of the wash and bath-room, which opens immediately into the ward.

I wish to invite special attention to the fact that the clothing which these boys had to handle up to the beginning of their own illness was that used only by Boll and McAvoy, and consequently was not stained by any excrementitious matter, as neither of these men had any involuntary discharges from bowels or bladder during their sickness. Granting, then, that the foregoing clinical history in the case of John Cassidy shows unmistakable evidence of typhoid infection, and I think there can be no doubt of it, to my mind there is a striking analogy between the circumstances under which it is at all possible to account for its mode of conveyance in his case and that of Sergt. Deichmann. But why Deichmann should be the victim while his comrades escaped, or why Cassidy was the victim while his brother and the other members of the family escaped, are problems which must be left unsolved until we have further knowledge of the nature of the *materies morbi*.

At most of the posts affected with typhoid fever nothing is said as to its origin, which in the present stage of our knowledge of prevention is the most important point to be investigated. In a few instances in which remarks are made suspicion is thrown in a general way on the water supply if the case can not be conclusively established as having been contracted during absence from the post. As an instance that eternal vigilance is the price of safety in the case of infectious diseases the following extract may be given. The dejecta of a single patient passing undisinfected into the soil may be the cause of a dangerous outbreak.

FORT LOGAN, COLO.—(*Maj. R. M. O'Reilly.*)—I would also respectfully invite attention to the fact that one of the employés at the pump house is suffering from typhoid fever. The dejecta from this patient are thrown into a sink without disinfection, thus dangerously polluting the soil. I would therefore recommend that the sink into which the dejecta of this patient are thrown be burnt out and filled in, and that steps be taken to disinfect the dejecta, for which purpose disinfectants can be furnished by me. A separate sink should be dug for the sole use of this patient.

In comparing the rates of these specific febrile affections in our Army with those of foreign armies, Great Britain and Italy had less diphtheria than we had, but Germany had a great deal more. There is, however, a good deal of uncertainty concerning the character of the cases that are returned under this heading. We had much less scarlet fever than they had. A trace of smallpox poison appeared in all. The British had less enteric fever than we had, the Germans as much, and the Italians more, while a trace of typhus was shown among the British and Italians, but none among our troops or those of Germany.

Influenza.—The total number of cases reported was 3,087, of which 22 were fatal; average duration of each case, 6.9 days. The disease appeared at the same time at widely separated posts. Thus in January it was reported from Fort McPherson, Ga., and Whipple Barracks, Ariz.; in February from Fort Sherman, Idaho, Fort Missoula, Mont., and Fort Logan, Colo.; in March from Fort Wayne, Mich., Fort Monroe, Va., Fort Sidney, Nebr., Fort Wingate, N. Mex., and Fort Thomas, Ky.; in April from West Point, N. Y., and Fort Mackinac, Mich. It subsided during the warmer months, but reappeared in November and December. Accepting a germ theory, the above facts would indicate a recrudescence of the disease from the germs of last year, as was the case with the yellow-fever epidemic of 1879. At the same time they militate against the theory of a meteorological causation, for the climatic conditions of this country are not localized as were these epidemics. The cold waves of the months of January, February, and March sweep over the country from the Rocky Mountains to the Atlantic.

At some posts the cases were milder, at others more severe, than those of 1890. A few extracts are given to show the character of the disease, among others an excellent report on its symptomatology, treatment, and etiology, by Capt. Chas. E. Woodruff, stationed at Fort Missoula, Mont.

FORT MCPHERSON, GA. (*Maj. J. C. G. Happersett*).—An epidemic of influenza of severe form has prevailed at this post during nearly the entire month of January. The type of the disease is much more severe and the continuance of the cases prolonged compared with those of the preceding year.

Maj. P. J. A. Cleary.—The cases of death during the month (December) were sudden. Both were on sick report for epidemic catarrh. One was in hospital for several days, apparently doing well. On leaving his bed one night he fainted and soon expired from heart failure. The other was treated in quarters and was but one day on the sick report. He died of apoplexy. Of the number taken sick, 60 were cases of epidemic catarrh and 14 of common catarrhs, bronchitis, and allied affections due to climatic causes.

WHIPPLE BARRACKS, ARIZ. (*Maj. B. F. Pope*).—In January there occurred a considerable number of cases of catarrhal fever in Company H, Ninth Infantry. The disease resembled "la grippe," which was epidemic last year, but it lacked several essential symptoms. Fever, headache, marked muscular pains, and slight sore throat were common, with but little catarrh, nasal or bronchial. The attack usually lasted twenty-four hours, and was promptly controlled by antipyretics.

FORT LOGAN, COLO.—*Maj. R. M. O'Reilly* reported on February 19 that the garrison was suffering from an epidemic of influenza of a serious type. On the 23d he recommended that company commanders direct their men to report to a medical officer at once on the occurrence of a chill or chilly sensations, cough, pain in the chest, sore throat, or headache, as experience had shown that cases of the prevailing epidemic were much more manageable when treatment was begun in the earliest stages.

In November he reported: Epidemic influenza has again appeared at the post; this time, however, in a mild and manageable form. During the month there were 13 cases, in only one of which was there any serious complication. Of those who have returned to duty the average duration of the disease has been 7.6 days, the longest 13 and the shortest 2 days.

FORT WAYNE, MICH. (*Maj. John H. Bartholf*).—March: Epidemic influenza appeared on the 23d, and there have been thus far 18 cases among the soldiers and 5 among the women and children. All the cases have as yet been mild.

Maj. H. R. Tilton.—April: There were 9 new cases of influenza during the month. The last case was returned to duty on the 20th instant.

Capt. W. H. Corbusier.—December: Epidemic influenza has appeared at this post. Most of the cases have been mild, but a few of the adults are having severe attacks.

FORT MONROE, VA. (*Maj. C. E. Munn*).—The sick report for March has been increased largely by an epidemic of influenza, which affected 15 officers, 16 enlisted men, and 29 women and children. No case of pneumonia or other serious complication was developed. The atmospheric conditions have been unfavorable. Damp, cloudy weather, with rain, continued for many days.

Maj. R. S. Vickery.—December: An epidemic of influenza or grippe increased the sick report for some days. At first the disease was of a mild character, but in the last few days some more severe cases have appeared.

FORT SIDNEY, NEBR. (*Capt. L. S. Tesson*).—Epidemic influenza, or catarrh, which fortunately did not reach us last year, made its appearance during March. Its visit was of short duration (from the 16th of March until the 8th of April), and on the whole quite mild in character, the majority of patients being incapacitated but a few days. It was complicated with lung troubles in only four cases, two of pneumonia terminating favorably, and two of capillary bronchitis, both fatal. It is but fair to state, however, that both of these cases were completely prostrated from the effects of a prolonged debauch at the time that they were stricken with the disease.

The symptons in the main were intense headache of a congestive character, pains in all the limbs, the back, and groins, and a temperature of about 103° of thirty-six or forty-eight hours' duration, and in many cases after convalescence was established a severe pain in the region of the spleen, which frequently lasted over a week. The tongue was generally clean and the bowels natural in character and action. Great prostration followed in all well-defined cases.

The first case appeared in an officer recently returned from Omaha, Nebr., where the disease was prevalent, and the second in another officer who was much in the society of the first. The last case during the existence of the disease as an epidemic occurred April 6. One case occurred on the 9th, 2 on the 12th, and 1 on the 20th, all of which were very mild. Less than one-fourth of the command were affected.

FORT HAMILTON, N. Y. (*Maj. Ezra Woodruff*).—Influenza has greatly affected the command during the present month, the first case appearing about December 17. Up to date 60 cases have been treated; of these 17 remain under treatment. The symtoms were frontal headache and pain in the back and in the bones of the lower extremities; many had a bronchial irritation or catarrh. None of the cases have been very severe.

LEAVENWORTH MILITARY PRISON, KANS. (*Lieut. Col. J. P. Wright*).—During the past month (December) there has been an unusual amount of sickness here, both among the members of the provost guard and military prisoners, due to the prevalence of epidemic catarrhal fever or "la grippe." Prisoners employed in the interior of the prison, the shops, dining rooms, kitchens, etc., seem to have been especially liable to the disease; the number of cases occurring among this class has been greater than among such as were employed in the open air. The clinical history of these cases is almost identical with that of the cases which occurred during the two previous winters. There has been an initial chill, followed by a sharp rise of temperature, with coexistent catarrh of the bronchial or gastro-intestinal mucous membrane, generally accompanied by tonsilitis or pharyngitis; headache, anorexia, and malaise; pain in the back and limbs, and occasionally severe neuralgic pains of a wandering character. The attacks were generally followed by great debility and weakness for some days or weeks after convalesence was established. In a few cases the febrile symptoms were greatly predominant and persistent, the rhythm being such as is observed during the first week of enteric fever. Only in one case was there intercurrent pneumonia. The disease has been prevalent among the families to some extent, but not to the extent of former epidemics.

FORT MACKINAC, MICH. (*Lieut. H. E. McVay*).—April 2, 1892, an epidemic of *la grippe* began, which for two weeks greatly interfered with the duties of the garrison. Similarly to the epidemic of 1890, it began in the lower or ground floor, Company C quarters, and prevailed therein a week before it invaded the second floor, Company D quarters. Thence it spread to the quarters of the noncommissioned officers and married men, but did not prevail therein to any great extent. The epidemic was at its height on April 8, and the last case reported on April 18. Company C had 38 men on sick report, and several more under treatment. Company D had but 13. Reasoning from the above facts the conclusion is obvious that the unfavorable location, inferior means of ventilation, and faulty construction of Company C's quarters, concerning which many adverse reports have been made, are in a great measure responsible for the severity of the disease in that company. None of the cases proved serious and no complications arose.

FORT MISSOULA, MONT. (*Capt. Charles E. Woodruff*).—Though the first case that from its symptoms could be actually called influenza occurred February 16, there were before this date, and as early as February 1, several obscure cases of malaise, rheumatic pains, headaches, etc., accompanied often by "colds," and often diagnosed as "grippe" by men who read the Eastern papers. At first I refused to acknowledge that any of the cases were actual influenza, and though the cases occurring after February 26 were definitely called influenza, they were apparently sporadic, and it was not until March 6 that it was certain that we were in the midst of an epidemic. The first cases occurred among the soldiers.

In most cases an inflammation of some portion of the respiratory tract was developed, usually after the pains had begun; in a small number the "colds" were noticed first. In only two cases was there coryza; in only one sneezing. It was this absence of coryza that first threw doubts on the diagnosis of influenza. The other cases were equally divided between pharyngitis and bronchitis.

In children the attack came on with marked suddenness; the child might have been entirely well, yet in half an hour it would lose all spirit and lie moaning in bed or in its nurse's arms. Generally they were not peevish or fretful, but rather the opposite, and the intense desire to lie still might have been caused by a general soreness similar to that experienced by adults.

The headache, which was almost universal, was severe, persistent, bursting; it was found often in the temples, over and in the eyes, and in a large number in the back of the head. A few complained bitterly of this pain and paid no attention to their other symptoms.

The pains were often in the muscles of the back from the coccyx to the head, but a large number, probably 80 per cent, were tortured by pains throughout the whole body. The character of this pain is very difficult to describe; it was not a soreness, nor a rheumatic nor neuralgic pain, nor a bruised sensation, nor in the bones of the joints; paradoxical as it may seem, it was each and all combined; the colored people unwittingly described it as well as could be—it was "a misery." No position or attitude gave an instant's relief; many groaned and cried out, and the suffering women were nervous and in tears. The pains were uniformly thirty-six or forty-eight hours in duration, a few cases recovering in less time. The subsidence of pain left the patients prostrated. For so short an illness the weakness was phenomenal,

but strength was rapidly gained, and in a week most cases were as strong as ever; only those having complications were more than ten days in recovering their usual vigor.

In two children and about six men a singular, and at the time alarming symptom was very noticeable, namely, a strong tendency to spasm of the muscles of the back of the neck. They lay on the side with the head drawn well back and chin elevated. In these cases there was fortunately nothing besides pain and fever to further obscure this symptom. They were quiet, uncomplaining, and indeed somewhat stupid. Cerebro-spinal meningitis was thought of, so marked was this one symptom. Each of these cases made a rapid, uneventful recovery.

A nervous symptom occurring in children was so pronounced as to alarm the mothers very much, and quite needlessly. In each of the eleven children attacked there was a strong tendency to somnolence. Two children slept nearly forty-eight hours, waking every two or three hours for nourishment, but immediately falling to sleep. The fever was only moderate, and there was in the worst cases of this symptom nothing to account for it. In thirty-six or forty-eight hours this stupidity would leave and the children quickly recovered their usual spirits. Though this symptom was chiefly confined to children, it was noticed in many adult negroes also. There was no delirium in any case excepting in one having pneumonia.

The temperature might be considered under the head of nervous symptoms. The cases of pure inflammation of the air passages had the usual slight increase which is always found in these affections, and no importance was attached to this slight fever. In the cases called influenza there was invariably an amount of fever which was in proportion to the severity of the case; it arose coincidently with the pains, and usually lasted somewhat longer than the pains, but the temperature was normal by the fourth day. Temperatures of 99.5° to 100.5° were frequently seen, but in no case excepting the pneumonias was it over 102.5°, or possibly 103° for a short time. More temperatures of 102° were noticed than any other degree. The children affected were only slightly feverish, 99½° to 101°, and pulse slightly accelerated.

A few cases of great diaphoresis occurred, chiefly at night, but they were so few as to be considered only accidental.

The pharyngitis was intense, caused considerable suffering, and yielded very slowly to treatment. In some cases the suffering seemed more than the condition of the throat accounted for; in only a few cases did it respond rapidly to treatment; the least time of a severe case was three days and the greatest about two weeks. The throat presented the usual appearances of pharyngitis, but occasionally the membrane assumed a purplish hue, which I have never seen before in this affection. There was no swelling, no exudation, merely a violent congestion. In one case of follicular tonsillitis, complicating a general pharyngitis, a diphtheritic membrane spread over each tonsil. It is probable that this was diphtheria, and for the safety of the garrison it was so considered.

When bronchitis occurred the cough of the congestive stage sometimes commenced before any other symptom, but usually not until the second or third day, or even later. The one noticeable and almost universal characteristic of the cough was its exasperating, irritating, and persistent uselessness. At first the tickling sensation in the throat caused painful and exhausting coughing, and after secretion began to be established the cough could not dislodge it. The secretion seemed to be adhesive, and though the patient could feel it moving or rattling in the tubes the most persistent efforts failed to bring it up. It was this exasperating nature of the cough which brought out the most complaints. In the majority of the cases the expectoration became more fluid and more easily detached, but the cough continued invariably after all the other evidences of bronchitis has disappeared. Suppurative otitis occurred in two cases and presented nothing worthy of notice.

Nothing occurred in relation to the digestive system among adults that is of any importance. One or two had slight diarrhea.

Among all the children who had symptoms of pain and prostration there occurred on the first day or the second a copious loose movement of the bowels containing considerable mucus. This was the almost invariable rule, with possibly but one exception, whether the bowels moved naturally or as the result of a laxative, and whether or not the child had symptoms of congestion of any portion of the respiratory mucous membrane. Beyond one or two of these stools no other sign of intestinal inflammation showed itself, and the child was in one or two days as well as ever in this direction.

No skin eruptions whatever appeared either among white or colored people.

There occurred five cases of pneumonia among the adults in the post and two in the vicinity. The pneumonia was croupous, but markedly different from the affection as usually seen. Four in the post and two outside were remarkably light in all respects; only one, fatal, was severe. In the light cases constitutional disturbance was slight, fever not going above 103°, usually 101½° or 102°. Rusty or blood-streaked tenacious sputum was expectorated by the second day, quickly changing,

in all but one case, to a whitish frothy muco-pus. The consolidated area presented marked variations. In each case there was but part of a lobe affected. It was chiefly the left lung, and there was a band or zone of consolidation about 2 inches thick and about 2 inches above the base. In three cases the signs were found posteriorly, and yet anteriorly no adventitious sounds whatever could be heard. In one an area of consolidation 2 inches wide across the right chest, inclosing the nipple, was very marked, but posteriorly every sound was normal. This consolidated area presented throughout the disease all the signs of lobar pneumonia in its various stages, excepting that it was apt to give more marked bronchial breathing and increased vocal resonance than the dullness would account for. Broncho-pneumonia might present these symptoms, but this disease can be excluded because of the total absence of a primary bronchitis, and the fact that though it was secondary to a disease similar to influenza there were none of the usual precursors of broncho-pneumonia. The rusty sputum is very rare in broncho-pneumonia, and the post-mortem examination of the fatal case showed typical lobar pneumonia of the whole of the right lung and middle portion of the left lung; the left lung presented, antemortem, all the signs found in the other cases. On the other hand the physical signs in any one case were apt to vary from day to day much more like broncho than lobar pneumonia, and the temperature, in all but two cases, did not present a well-marked crisis but only a resemblance to a crisis. The rusty sputa may have been nothing more than an evidence of the same kind of intense congestion which characterized all the cases of inflammation, the blood vessels, from the extreme tenuity, exuding blood into the smaller tubes or air cells; indeed one case has been definitely called broncho-pneumonia on account of the limited area, its anterior position, the absence of rusty sputa, the absence of the usual signs of lobar pneumonia, and the fact that it was developed in a case of severe bronchitis. It is extremely probable that the cause of the pneumonia is entirely different from the causes either of lobar or broncho-pneumonia, as will be discussed under the head of etiology.

The treatment of the various complications offers nothing of importance. The pharyngitis was treated with hot water and astringent gargles, spraying with vaseline and cold or hot applications to the throat, particularly if any tendency to laryngitis existed. Feverishness was relieved by aconite, particularly in the young, and restlessness by bromide of potash, sometimes in combination with chloral. In all the cases of fever and pains, with or without the complications, it is not probable that treatment shortened the affection in the least. Cases without treatment lasted just as long, but suffered more of course. A large number of cases presented only these two symptoms, and antipyrine, seemingly fitting so nicely, was tried with success. Five grains every hour or half hour often gave great relief after four to eight doses were taken; in a few cases it had to be repeated, in some it only relieved the worst distress. When the fever was pronounced, but pains trivial, antifebrine was successfully given in the same doses. The largest number of cases were treated with salicylate of sodium, sometimes with aconite or bromide of sodium. This drug relieved the pains very greatly, as might be expected from their slight resemblance to muscular rheumatism; in some it seemed to cure the affection entirely. Dry heat applied to the body by means of water bottles or bags was always grateful to the patient, but not curative, as the pains were apt to return afterwards.

There was some evidence that the disease this year, whatever it may be, was contagious. In four houses the illness of the husband was followed by the illness of all the rest of the family, intervals of two to four days between each case. In only two of these four houses did the disease exist at the same time. In one house they were informed that the affection might be contagious, and the wife slept apart from her sick husband and escaped. Her baby had been on its father's bed and was taken ill with the disease. When a marked case occurred in one house other cases were expected.

Among the enlisted men the largest number came from one company, but there is nothing about this company, its barracks, discipline, or duty at all different from the others.

On the other hand, this evidence is not conclusive, for the cause, if capable of localizing itself, would affect all those in the locality, and if in one house, all in that house, those less resistant sooner than the others; and if the cause existed outside of the house it may have been carried in by the husband, cultivated, perhaps, and spread to the others. Though an opinion of value can not be formed from the evidence, it is probable that some of the cases this year were contagious.

The recital of the various facts in this epidemic naturally suggests the question, What disease has visited this vicinity? Was it influenza, a new disease, a mixture of diseases, a modified influenza, or an epidemic of "colds" such as are seen every winter?

A recrudescence of influenza is now being reported from various parts of the United States and of the world. Physicians are not sure it is influenza, and have been reluctant to call it such. This sickness undoubtedly resembles that disease

more than any other, and for the sake of giving it a name, has been called such. But a study of the foregoing symptoms shows conclusively that it presents several marked differences from the epidemic of last year, as well as resemblances. That skepticism is justifiable, its similarity to dengue is sufficient proof, and it is not certain that a single case of typical influenza has occurred; though of course many were so nearly like that disease, as far as distress of patient and his treatment are concerned, as to be called influenza for practical purposes. Again, the histories of previous epidemics do not, as far as I can learn, mention the reappearance of the disease the subsequent year. The inflammations of the respiratory mucous membranes were mostly intense congestions, affecting the pharynx and larger bronchial tubes, but not the larynx and nasal surfaces. The fever and constitutional disturbance were far less than last year; epistaxis was uncommon, and numerous cases had no signs of "colds."

From newspaper reports it is evident that Philadelphia has suffered from about the same affection that has been here, and it is believed that the diagnosis is somewhat doubtful there, also. From its resemblance to malaria, dengue, and influenza, it is called by newspaper accounts malarial-breakbone-influenza, and it is suggested that it is a new disease. In this case it is totally unnecessary to invent a new disease or imagine the existence of one, for besides the improbability of a new disease escaping the notice of thousands of brilliant physicians always on the lookout for one, it seems absurd to give a special name to a "cold," if many people have it, and call it simply a "cold" another time if only a few are exposed to the same conditions that the many were.

The suggestion that the affection was a mixture of diseases, though very improbable, can not be summarily dismissed. We know that several diseases may coexist, but it is clear that in this case, omitting the complicating pneumonia, there is no reliable evidence that there was a multiplicity of causes.

The suggestion that this is a modified influenza must be treated with more respect. A few germs left over from last year, prostrated by a hot summer, degenerated and weak, may have attacked the country, but no sweeping invasion of germs has taken place. The various parts of the country have been irregularly attacked as to time, and not successively from east to west, as would be expected; and, if I am not mistaken, a review of the whole country will show that with some exceptions the general trend of the affection has been from the west, a fact which, if true, is strongly indicative of the influence of meteorological conditions, for the great winter changes of weather almost invariably follow this course. Again, the intense nature of the localized congestions would favor the idea of the local action of living cause. Meteorological conditions would cause a more general congestion. The ideas are of course based on the supposition of influenza having having a living cause, an unproved premise, and therefore leading to a doubtful conclusion.

Flint's Practice of Medicine, page 398, edition of 1886, refers to an epidemic of pharyngitis in western New York in 1857, which to all appearances must have been exactly similar to the majority of the cases seen this year. In January or February, 1886, there occurred an epidemic in Philadelphia which was the same as the above. Being one of the victims, I have a lively recollection of the intense headache and prostration which existed. with a slight fever (101½°), for forty-eight hours before any throat symptoms developed, and how a sedative, a laxative, and an astringent gargle straightened matters out in less than forty-eight hours. There is scarcely a winter in a variable climate that an epidemic of "colds" is not seen; the favorite winter conversation in cities is the detailing of personal symptoms of the "colds in the head" from which all suffer; again, it is pharyngitis, again laryngitis or bronchitis, and occasionally it is pneumonia with its fatalities, and in some localities, in summer, it is enteritis or cholera morbus. It seems absurd to demand a microbe for each one of these epidemics. An inflammation of the nasal or pharyngeal mucous membrane can be caused in a hundred ways without the interference of the bacillus of diphtheria or the supposed germ of influenza, and similarly with all other affections of an inflammatory type. A general muscular soreness, with fever and headache, is a common winter occurrence after exposure to cold drafts while the body is wet with perspiration, and a germ is never dreamed of.

It is remarkably easy for meteorological conditions of moisture, temperature, pressure, winds, ozone, etc., so to alter the circulation in the capillaries as to cause violent congestion. Take the familiar example of mountain climbing. The great reduction of pressure causes such intense vascular dilatation that actual bleeding from the mucous membrane takes place, and the intense headache indicative of congestion is occasionally the forerunner of an apoplexy. The persons who come even slowly from the deep caissons of bridge building are affected with painful symptoms, which in some mild cases are but little different from cases in the epidemic of this year. From the physical laws of the compression of gases we know that under great pressure the fluids of the body contain much more gases than under low pressure, and when the outside pressure is relieved the gases will cause pressure within

the vessels or will actually escape in bubbles. All the above cases of caisson disease can be fully explained under this law, even the severe cases where the pressure has so damaged nerve tissue that the nerve has never recovered its usefulness, and where the spinal cord has been damaged within its unyielding walls. It is to be remembered that the actual pressure is immaterial within certain limits provided that it is the same throughout and time is given for the adjustments. Experience has shown that if the workmen emerge slowly into lower pressure they are scarcely affected at all, and dozens, perhaps hundreds, of lives might have been saved if the practical application of the laws of pressure of gases in confined liquids had preceded this experience. Now, what objection is there to the idea that the mildest cases of caisson disease are repeated every winter when sudden barometic and other meteorological changes have suddenly altered the circulation? He who has "taken a cold which has settled in every muscle of his body" may be suffering from symptoms identical with caisson disease, and so may some of these cases this year.

The cold winds of northern climates impinging on the forehead cause such disturbances of circulation around the terminations of the fifth nerve that intense frontal neuralgia results.

Upon the approach of a cyclone all cases of chronic rheumatism, neuralgia, painful corns, and neuromata in the stumps of amputated limbs suffer severe twinges of pain, which become less as the storm center approaches and then decline. In the cases of neuromata these pains recur after the storm center has passed. Investigation shows that the outer ring of the cyclone constitutes a "neuralgic zone," and while the patient is in this ring pains occur; but while he is inside the ring nearer the cyclonic center or outside of it entirely, his pains cease. A more beautiful illustration of meteorological conditions causing pain could not be invented. The real agent in the case is unknown; but that it is chiefly due to changes of pressure is most probable from the fact that the barometer falls before the cyclonic center arrives and rises after it has passed.

Cold applied to the feet and legs may so change the whole circulation as to bring on violent metritis or enteritis or bronchitis. If great heat applied to the head will alone cause those dreaded and often fatal cases of sunstroke, and if cold alone will cause a general benumbing of the whole nervous system, it is surely reasonable to suppose that variations of temperature within these extremes will have some effect, however small, in producing variations of health.

A person going from a very moist atmosphere, as of a room, into a dry atmosphere outside of equal temperature, may have evaporation so marked from his body as to take a violent "cold," or even pneumonia.

Meteorological changes affect all alike, and if they have any effect at all it is exerted in an epidemic manner. The mere fact of the inflammation being of an intensely congestive type, though favoring the view of meteorological causes, is not conclusive; for certain germs, as of epidemic conjunctivitis, often do the same. In this matter it should be remembered that many capable physicians are not at all sure yet that influenza has a living cause or microbe. In the first place, cases like influenza occur every year, and it is only when many occur that a microbe is suspected. Again, all the symptoms can be accounted for without a germ, and one, if it does exist, has eluded all the searching efforts of thousands of skillful workers, a fact of much weight.

A curious and at the same time important fact in relation to the present epidemic is strongly indicative of the influence of meteorological conditions, namely, at each period of the two months a certain complication was so frequent as to overshadow all the others. One time bronchitis, at another time neuralgia, at another laryngitis, and at still another period pharyngitis afflicted the greatest number. Another fact equally curious is the probable trend of the disease from west to east, as mentioned more fully above.

In addition to all this, one would naturally expect much sickness this year, from the fact that throughout the world the weather has been unusual. In some situations it has been either more severe or more variable than has been known for fifty years.

This has been called the "germ age" of medicine as well as the "German age;" and in the strugle to find a microbe to account for every sickness it seems that we are overlooking common causes. When a grown girl gets her feet wet and has an ovaritis, or a boy eats green apples and has an enteritis, no germ is suspected, yet it seems impossible in some diseases to think of any thing else but a living cause and not a dead one. It is apt to be forgotten that many causes may produce the same appearance or symptoms of some particular affection. An inflamed hand may have been caused by heat, frostbite, chemical irritants, or erysipelas, and, not knowing the antecedents, it would, at a particular stage of the affection, be impossible to say which. "Taking cold" may make the tonsils exude a substance as to give them an appearance that no one could tell whether it is follicular tonsilitis or true diphtheria. Why, therefore, is it necessary to invoke the germ of influenza this year,

when such cases of sickness occur every other year and are classed as simply colds.

The presence of pneumonia can be accounted for on any hypothesis. Sternberg has shown very conclusively that the coccus, which is always present in pneumonia, and causes that disease when injected into the lungs of the lower animals, is always present in the mouth. Nothing is more reasonable than to suppose that when the mucous membrane has lost its vigor and resisting power by an attack of inflammation, it offers an opportunity to the coccus to establish itself where it can do the most harm. It makes no difference what has caused the inflammation, for the tissue would naturally be less resistant in any case. It may be impossible to give a lucid reason why pneumonia assumed the particular form already discribed in which the characters of lobar and broncho pneumonia were intermingled. It can only be conjectured that the inflammation, which always limited itself to a small portion of the respiratory tract if the disease was above the lungs, pursued the same course when it attacked the mucous membrane in the lungs.

In connection with the etiology of this sickness, a coincidence might be referred to in the case of the animals in the post corral. At the beginning of the sickness, about February 10, one of the mules died of an illness which was characterized by intense congestion of the respiratory mucous membrane with much swelling of all subcutaneous tissue of the head, peritonitis, great pain, and delirium. In veterinary works the nearest affection in symptoms and course is the fatal form of "congestive influenza." As far as known all the other animals remained healthy.

In forming a conclusion as to the real cause of this epidemic it is safe to say that, while the meteorological conditions alone might account for the affection, the similarity of the symptoms to those of epidemic influenza and the slight evidence of contagion make it probable that, though it may not be a true influenza, that disease may have had a decided part in modifying an ordinary epidemic of "colds" such as are seen every year in every part of the world. From a study of all the cases I am most inclined to the opinion that we have had nothing more than the diseases found every winter, only more of them, and that though the word "influenza" has been repeatedly used to group the cases, give them a name, and show that many were alike in their resemblance to that disease, the word is in the strictest sense a misnomer.

Giovanni Marenna's article on the etiology of influenza has just been published in the New York Medical Journal (April 11). If he is correct in his surmises about the disease being caused by meteorological conditions and not by microbes, then we have had "influenza," pure and simple, this year. In that case a different signification must be given the word than the meaning usually conveyed. The definition of influenza would then be "a disease, sometimes epidemic, caused by meteorological conditions, and commonly called a cold."

MALARIAL DISEASES.

Only a few years ago malarial disease constituted the prime factor in the constitution of the sick reports of our Army. To-day it occupies a minor position, except at certain posts. The admission rate for the Army amounts to only 62.23 with 1.58 noneffective per thousand of strength as compared with 92.93 admission and 2.79 noneffective in 1890 and with 120 and 3.25 in 1889. Twenty years ago there were as many cases of malarial disease at many of our military stations as there are now of all diseases, injuries included. Drainage and sewerage, pure water supplies, improved quarters, and the abandonment of insalubrious localities have effected this gratifying result. Nevertheless Fort Sill, Okla., continues to give 546.05 admissions per thousand with 10.03 constantly sick, and Fort Reno, Okla., 456.95 with 10.42. Washington Barracks, D of C, takes third place with 348.40, but only 6 constantly sick. Camp at Oklahoma, Okla., takes fourth place in prevalence, 333.33, but third in noneffectiveness, 9.24. Fort Brown, Tex., which had formerly a notorious record for malarial disease, has now only a nominal rate. In 1889 its admission rate was 1,675.86 with 38.58 constantly sick; in 1890, 325.91 with 8.32, and last year 16.13 with 0.35. This extraordinary record can be attributed only to the use of cool distilled water from the ice machines.* The twentieth post in the order of prevalence had in 1889 an admission rate of 189.19, in 1890 131.14, and in 1891 97.18. The reduction of the rates of these diseases is thus seen to be general.

*See under the heading of Water Supplies, page 74.

DIARRHEAL DISEASES.

These diseases also have been undergoing a gradual lessening in their prevalence in the Army. The admission rate of the past year, 108.21, shows this when compared with 118.40 in the previous year, and 172.82 in the previous decade. The average duration of the diarrheal cases was 3.7, of the dysenteric 15.4 days.

The incidence of diarrheal diseases appears to be irregular; seldom do the same posts hold from year to year their relative positions in the order of prevalence. Last year Fort Barrancas and St. Francis Barracks, Fla., had the largest admission rates, 574.06 and 392.50; Barrancas and Fort Stanton, N. Mex., the largest noneffective rates, 18.14 and 5.10. Although St. Francis Barracks had such a large number of cases they were slight in character, giving only a rate of constant sickness equal to 2.87 per thousand of strength. The average duration of each case at Barrancas was 11.53 days; at Fort Stanton 5.81 days, and at St. Francis Barracks only 2.67 days. In 1890 Fort Sam Houston, Tex., was the post at which these diseases were most prevalent, with Fort Sill, Okla., second. Last year the former occupied the twelfth place and the latter the fifth in the order of prevalence.

RHEUMATISM.

Last year rheumatism occasioned 75.33 admissions per thousand of strength as compared with 83.19 during the previous year, and 107.28 during the previous decade, a gradual lessening in the prevalence of this disabling disease. The improvement is also manifest in the discharge rate, which was 1.25 in the past year, 2.06 in 1890, and 2.96 during the previous decade. Again, the constant sick rate during the past year was 3.93, in 1890 4.05, and in 1889 4.79.

As usual in former years, the posts that have had the largest prevalence during the past year are situated in no one latitude or longitude, but are scattered indiscriminately all over the country; nor are the posts which have the largest rates in the reports now under consideration the same with those that had the largest rates in 1890 or in former years. The post which has the largest admission rate is Fort Apache, Ariz., 247.70, with 6.23 noneffective. That which has the largest noneffective rate, 13.02, is Jackson Barracks, La., with 123.80 of admissions. The ten posts of greatest prevalence during the year are situated in as many States—Arizona, Nebraska, Washington, Montana, New York, Texas, Florida, Kentucky, California, and New Mexico. Local conditions have therefore more to do with the incidence of rheumatism than geographical considerations. Damp soils from high-ground water level are no doubt as productive of the disease in one State or Territory as in another, and damp clothing or bedding may be as dangerous to the individual as a damp soil to the garrison. The statistics show a decided excess of prevalence in the Department of Arizona, where as a rule the subsoil water level is far below the surface, but where men go out on scouting and other expeditions unprepared for changes of temperature, seduced into carelessness by the general warmth and equability of the climate. There is a valuable lesson to be learned from the statistics of rheumatism in our Army.

VENEREAL DISEASES.

During the past year the admission rate for these diseases was for the white troops, 70.64, for the colored, 88.18, for the Indians, 91.22, and

for the Army as a whole, 72.46 per thousand of strength. The noneffective rate for the white troops was 4.96, for the colored 5.69, for the Indians, 3.40, for the Army, 5.00. The average number of days of treatment was for chancroids, 24.2, for syphilis, 43.9, for gonorrhea, 19.3. The comparison between the admission rates for these diseases in our own and foreign armies has already been made in discussing admission rates in general. Nevertheless our rate of 72.46 per thousand of strength may be again compared with the 212.10 of the British home-service troops, with the 64.49 of the Italians, and the 26.76 of the Germans.

Our admission rate of 72.46 compares favorably with 75.22 in 1890, and 79.09 as the annual average of the previous decade. In the prevalence of these diseases, as in that of all those heretofore considered in this report we find a steady improvement as the years pass on. Nevertheless, 46 men discharged from service and 5 in every thousand constantly sick from venereal diseases is more than we should have were the proper quality of men gathered at our recruiting depots.

The post that gave the highest admission rate, 266.20, was again, as in several former years, the recruiting depot at Columbus Barracks, Ohio, but the improvement observed is satisfactory, for in 1890 this rate was 380.46, and in 1889, 462.44 These rates by themselves show a vast improvement in the quality of our recruits, for the conditions otherwise at this depot remain unaltered so far as understood at this office. Jackson Barracks, La., and Fort McPherson, Ga., follow with rates almost as high as that of the recruiting depot, but after these the admission rates of the posts which have the highest rates drop remarkably. For instance, the fourth post in order of prevalence has a rate of only 146.12, although it is a recruiting depot, Jefferson Barracks, Mo. Although Columbus Barracks has the highest rate for admissions it takes only third place for non-efficiency. The small camp at Eagle Pass, Tex., has the dishonor of having relatively the largest number of men constantly disabled by these diseases, 16.28 per thousand of strength. Fort McHenry follows with 16.27, and then comes the recruiting depot, Columbus Barracks, with 15.95.

ALCOHOLISM.

Alcoholism also has been decreasing in our Army, but by much slower steps than the diseases already discussed. The admission rate for the year amounted to 40.01 as compared with 40.73 in 1890, 41.43 in 1889, and 56.68 during the previous decade. The rate among the white troops was 44.91; among the colored 4.36; no case occurred among the Indian companies. Six deaths and one discharge were among the direct results of intemperance, all among white troops. The enormity of this habit of intemperance among our soldiers may be best appreciated by comparing our rates with the freedom from drunkenness of the British, 2.56, the Italian, 0.03, and the German army, 0.20. To remove this blot on the record of our Army, recruiting officers should be strict in refusing to accept any man who has the slightest appearance of being addicted to the use of intoxicating liquors.

The 55 men at Camp Pilot Butte, Wyo., have the worst record, 218.18; but the habits of the 46 men at Camp Pena Colorado, Tex., and of the 57 men at Fort Ontario, N. Y., are nearly as bad. Jackson Barracks, La., comes next in order; but of the large posts Madison Barracks, N. Y., holds the undesirable position at the head of the list, with a rate of 164.56; Willets Point, N. Y., follows with 134.99. The posts having

the best records are all large—Fort Grant, Ariz., 3.46; Fort Custer, Mont., 8.67; Fort Apache, Ariz., 9.17; Fort Bayard, N. Mex., 9.43; West Point, N. Y., 10.72; and after these come the two recruiting depots, Davids Island, N. Y., 10.97, and Jefferson Barracks, Mo., 11.42. The attention of commanding officers is respectfully invited to the prevalence and distribution of drunkenness as shown in Table XVII, appended to this report.

PULMONARY CONSUMPTION.

The admission rate for the Army was 2.97; white 2.68; colored, 4.84; Indians, 10.14. The absolute number was 69, of which 10 were colored and 3 Indians. Eleven of these died, of whom 8 were white, 2 colored, and 1 Indian; 42 were discharged, 33 white and 9 colored. The average duration of treatment in each case was 107.4 days. These statistics are somewhat of an improvement on the past, for the rate of 1890 was 3.26 and the average annual rate of the previous decade 3.51. The British rate was 4.29, the Italian 0.97, and the German 2.49.

PNEUMONIA AND PLEURISY.

Ninety-nine cases of pneumonia (not complications of other diseases) were reported during the year, 74 white, 20 colored, and 5 Indian. The average duration of each case was 34.5 days. Twenty of the cases terminated fatally, 17 white and 3 colored. The admission rates were white 3.54, colored 9.69, Indian 16.89; the average of the Army 4.25 as compared with 3.96 in 1890, 4.86 in the previous decade, 5.43 in the British, 6.15 in the Italian, and 10.96 in the German army. Our present rate may therefore be considered satisfactory.

The largest number of men affected at any one post was 12, all white men, reported from Fort McKinney, Wyo. Fort Niobrara, Nebr., followed with 9, 4 of whom were Indians. Eight cases occurred in Columbus Barracks, Ohio, and as many among troops in field service in the Department of the Platte. Fort Riley, Kans., had 7; Fort Douglas, Utah, and Fort Keogh, Mont., 4 each; Fort Grant, Ariz, and Fort Missoula, Mont., 3 each. Nine posts had 2 each, and twenty-three posts 1 each.

Pleurisy caused a total of 45 admissions, 39 whites, 5 colored, and 1 Indian, with no resulting death or discharge.

INJURIES.

The rates for injuries differed but little from those of the year 1890, being for admission 248.91, for deaths 3.02, for discharges 2.76, and for noneffectiveness 8.60 per thousand of strength. More than half of the admissions consisted of sprains and contusions. Seventy-one cases of heat stroke were reported, only 2 of which were among the colored troops; none fatal. Sixty-two cases of frostbite were differently distributed, as only 36 of these occurred among the white troops, and the only fatal case was in the person of a colored soldier. Sixty-eight cases of gunshot wounds were reported, resulting in 14 deaths and 23 discharges; but in addition there were 19 cases in which death was instantaneous or followed so soon after the receipt of the injury that the men were not taken on sick report. The number of these casualties was therefore 87, of which 4 occurred during the reloading of cartridges, 7 at target practice, 7 while hunting, all not fatal; 15 with 8 deaths in personal encounters; 28 with 1 death by accident; 19 with

17 deaths as the result of suicidal attempts; and 7, all fatal, from wounds received in action with hostile Indians.

Eighteen deaths from drowning were reported; of these 6 occurred while fishing or hunting, 3 while bathing, and 9 by other accidents.

Twenty-two cases of suicide were reported during the year; 1 officer and 21 enlisted men; infantry 11, cavalry 1, artillery 4, general service 2, ordnance corps 2, hospital corps 1, staff 1. Gunshot was the means selected in 17, cutting the throat in 1, and poison in 4 cases; in 9 the cause was alcoholism, in 1 temporary insanity, 1 tired of living, 3 despondency, in 8 uncertain. The nationalities were United States 9, Irish 6, German 4, Scotch, Dane, American Indian, 1 each; ages 25, 29, and 36, 3 each; 32, 2; 21, 22, 23, 30, 37, 38, 39, 41, 44, 46, 1 each; and in one case not stated. Four occurred in February, 3 in May, 2 each in January, April, July, August, September, and October, and 1 each in March, November, and December. Three occurred at Fort Snelling Minn., 2 at Fort Davis, Tex., and 1 at each of seventeen different posts.

Nine attempts at suicide were reported, all enlisted men; 5 infantry, 2 artillery, 1 cavalry, and 1 noncommissioned staff. Alcoholism was the reported cause in 4; temporary insanity in 4; while in 1 the cause was uncertain. The attempt was made by gunshot in 2, by cutting the throat in 3, by poison in 3 cases, and by stabbing in 1 case. The nationalities were United States 3, United States colored 1, Irish 2, Russian, Dane, and Scotch, 1 each; ages 25, 2; 22, 24, 27, 35, 44, 48, and 49, 1 each. Two cases occurred at St. Francis Barracks, Fla., and 1 each at seven different posts. The months were May 3, February and September 2 each, and August and April 1 each.

The total suicides and attempts at suicide numbered 31; 4 in the first year of service, 4 in the second, 3 in the third, 1 in the fifth, 2 in the sixth, 2 in the seventh, 3 in the eighth, 1 in the ninth, 2 in the tenth, 1 in the eleventh, 2 in the fifteenth, 1 in the sixteenth, 1 in the twenty-first, 2 in the twenty-fifth, and 1 each in the twenty-eighth and thirty-first.

INFLUENCE OF SEASON ON THE SICK RATES.

The ratios needful to a full study of this subject are given in Table X, appended to this report. It may be enough to state here that the usual seasonal curve of prevalence is altered by the epidemic of influenza, which raised the monthly rates markedly above the average in March and again in December. Excluding venereal disease, alcoholism, and injuries, as uninfluenced by season, the average monthly rate of admissions per thousand of strength for all other diseases was 83.6. In January the rate was slightly below this. In February it rose, reaching a maximum of 131.7 in March, after which it fell gradually through April to a minimum of 66.3 in May. This low rate was prolonged through June and July, but in August an autumnal rise to 78.8 was observed. During the next three months the rates were 71.1, 70.3, and 72.4, after which the recrudescence of influenza increased the admissions to 112.3.

CIVILIANS ATTACHED TO THE ARMY.

The civilian attachés of the Army comprise the families of officers and enlisted men, servants, employés of the various departments, together with their families, and in short all persons not included in the

personnel of the Army, who are allowed to reside at military commands. These numbered 13,330; 2,350 adult males, 5,116 females, 5,864 children.

The admissions to sick report consisted of 2,036 adult males, of whom 31 died, 7,485 adult females with 54 deaths, and 6,155 children with 111 deaths; an aggregate of 15,676 admissions and 196 deaths. The admission rate per 1,000 of mean strength was 866 for adult males, 1,463 for adult females, and 1,049 for children, or an aggregate of 1,176; the death rate 13 for males, 11 for females, and 19 for children, an average of 15.

By way of comparison the statistics of the previous year are given: Admission rate, males, 931; females, 1,305; children, 1,132; all civilians, 1,158; death rate, males, 13; females, 9; children, 23; all civilians, 16.

The deaths and their causes are shown in the following table:

Diseases.	Adult males.	Adult females.	Children.	Total.
Acute febrile and infectious diseases	1	7	32	40
Constitutional	.....	5	8	13
Developmental	.....	3	16	19
Nervous	3	3	9	15
Respiratory	10	9	14	33
Circulatory	5	12	4	21
Digestive	.....	4	12	16
Peritonitis	2	1	2	5
Urinary	3	3	.....	6
Reproductive	.....	3	.....	3
Locomotor system	1	.....	.....	1
Parturition and results	.....	2	.....	2
Total from disease	25	52	97	174
Total from injury	5	2	6	13
Unknown	1	.....	8	9
Total from all causes	31	[illegible]	111	196

MARRIAGES AND BIRTHS.

On the reports were noted 52 marriages—6 of officers, 35 of enlisted men, and 11 of civilian attachés.

The births reported numbered 453—male, 211, female, 242. Eighty-eight were children of officers, 316 of enlisted men, and 49 of civilians. Besides these, 24 births occurred among the Indian prisoners at Mount Vernon Barracks, Ala., 14 males and 10 females.

VACCINATIONS.

The total number of primary vaccinations reported was 2,382, of which 1,455, or 61 per cent, were successful, 810, with 545 successful, at the recruiting depots, and 1,572, with 910 successes, in the Army at large.

The revaccinations numbered 7,974. Of these 3,460 were at the depots, 4,514 in the Army at large; 1,293 of the former and 1,655 of the latter, or a total of 37 per cent, were successful.

Bovine virus was used in 2,376 primary cases, 1,451, or 61 per cent, successful; and in 7,883 revaccinations, with 2,935, or 37.2 per cent, satisfactory.

Humanized virus was used in 6 primary cases, 4, or 66.6 per cent, successful; and in 91 revaccinations, with 13 cases, or 14.3 per cent, satisfactory.

INDIAN PRISONERS.

The death rate among these has been exceedingly high since their establishment at Mount Vernon Barracks, Ala. Consumption among the older members of the community and diarrheal affections among the children have been the principal causes, aided in most instances by the gross ignorance of the people and in several cases by their efforts at cure. The following extracts from reports of medical officers on duty at this station throw light upon the conditions. Capt. Borden appears to have effected a material improvement, supported as he has been by Lieut. Wotherspoon, Twelfth Infantry, in charge of the prisoners. The report of the latter shows how much has been accomplished since the almost naked, filthy, and vermin-covered colony became settled in their present location. It is a question, however, whether all this provision for their comfort and the improvement of their sanitary condition has been really beneficial. With all civilized people a lessened death rate is the measure of their advancement. During the first two years of the stay of these Indians at Mount Vernon Barracks, and before they had all the comforts and care which are now given them, 39 died, 20 during the first and 19 during the second year. During the next three years 141 died, 43, 53, and 45. In rates per thousand living the deaths of the five years were, respectively, 55, 51, 110, 146, and 110. These increased death rates in spite of sanitary care are, in my opinion, not due to climatic influences, but to change of habits.

The history of all Indian tribes that have come under the influence of our civilization is that they become decimated by consumption as soon as they give up their mode of life in the so-called wild state; and these Apaches are no exception to the rule. In the Chiricahua Mountains they lived a hard life in the open air, hunting for food, collecting mescal for winter use, and making frequent raids into Sonora for luxuries. Now their life is bounded by the lines of their camp. It is the same with the women and children, for these Indians were migratory, changing camp from canyon to canyon in the mountains, and the constant work of collecting seeds and berries fell upon them. If they were permitted to live on a larger reservation, preferably in a mountain country, their death rate would probably fall to its normal of about 40 or 50 per thousand; but so long as they are confined in idleness and close limits, as now, they will continue to be decimated annually.

Maj. P. J. A. CLEARY.—*January, 1891:* The entire number is 360, and of this number there were 112 taken on sick report, with 3 deaths. The deaths were all children. Of these but 1 was under treatment, this a case of chronic dysentery. The other 2, so far as could be ascertained, were in good health on being put to bed, and were reported dead next morning. They were both young, 1 two days old. * * * A large proportion of the sickness is due to climatic causes. They lived in Arizona, where the altitude is high and the climate dry and warm, and they were at once transferred to a climate on the sea level, and consequently humid. When they are thoroughly acclimated those left of them will be healthy.

February, 1891: The only death during the month was that of a baby a few days old, whose death was believed to be due to poison intentionally administered because of deformity. It is a custom with this tribe to destroy children afflicted with congenital malformations.

March: During the month a child died of broncho-pneumonia, and the other two were women who suffered long from tuberculosis; one of the lungs, the other of the bowels.

Acting Asst. Surg. D. J. SPOTSWOOD.—*April:* There were 5 deaths during the month, 2 under 5 years of age, 1 under 1 year. One was sent from the school at Carlisle, Pa., in the last stages of tuberculosis. Death resulted in 3 cases from tuberculosis, 2 of the bowels, and 1 of the lungs; chronic enteritis was the cause of death in

the fourth, and acute enteritis in the fifth. The sanitary condition of the camp is good.

May: One death from tuberculosis of bowels, 1 from old age and inanition, 1 from peritonitis, and another from Indian medicine. Two cases which resulted in death did not present themselves for treatment, and the patient that died of tuberculous bowels was in a dying condition when sent to the hospital. I would especially invite attention to the Indian man, Nigger Cozzey, the cause of whose death was peritonitis. My attention was directed to this patient on the 15th of last December; he was then suffering from an abscess extending from within the scrotum, thence beneath the perineal fascia around the right side of the anus to the right gluteal region. This enormous abscess was opened and evacuated under strict antiseptic precautions, and the patient put upon supporting treatment. He improved rapidly, and was discharged from hospital in good health April 21, and about fifteen days later was discovered in a critical condition in his cabin. The probability seems to be that he was tampered with by the squaws, who take advantage of every opportunity of administering their so-called remedies. Of the cases that proved fatal, two were under 4 years of age, one 85, and the remainder 40.

June: During the month 1 death occurred, the cause of which was Bright's disease. The patient, a woman aged 33 years, had been ill for several months. * * * I would assign as one of the causes of the marked decrease in the number of cases of sickness, and in the death rate, the recent establishment of a bakery, from which an abundant supply of excellent bread is furnished to the Indian camp. There can be no doubt that previous to the erection of the bakery the wretched bread which the Indians baked for themselves caused the majority of the cases of diarrhea and dysentery. Considering the location of the camp, upon a hillside and valley, the sanitary condition is excellent. Owing to a recent appropriation the new Indian village is rapidly approaching completion, and when the comfortable houses upon the high and dry pine-clad hill are occupied by the Indians, and an excellent supply of pure water from wells from 75 to 100 feet in depth, which are bored through the underlying clay strata, is used, it is to be hoped that all factors of disease will have been eliminated.

July: One death resulted from syphilitic rheumatism, 1 from cholera infantum, and 3 from Indian poisons given as medicine. I would again call attention to the administration of remedies by the old squaws. In one of the cases of poisoning above reported the child had been under treatment of the surgeon for two or three days, and was gradually improving (having been brought daily to the hospital for treatment). On the day of its death, in the morning, the mother was requested to bring the child to the hospital, which she failed to do, and upon going to investigate the cause of her absence, about 3 p. m., the child was found dead and the usual crowd of old squaws around. The child that died of cholera infantum was brought to the hospital in a dying condition. The other cases of poisoning were not under medical treatment at all. The woman the cause of whose death was syphilis had been affected for many months, and was a mass of disease from head to foot.

Maj. P. J. A. CLEARY.—*August:* When the Indian troops move into their new quarters and have regularly organized messes, with food properly cooked, cases of bowel trouble will disappear. Just now the cooking is done by the squaws, and is not of the best, but is vastly better than it was some months ago. * * * Of the deaths one was an adult, a long-standing case of consumption; the two others were children, one dying from diarrhea, and the other from causes unknown, as the child was never brought to hospital, but was treated by the Indians themselves. The principal sufferers among these Indians are the children, and the chief causes of their sickness improper food. * * * The interpreter regularly attends sick-call with me, and much of the success is due to his explaining such directions to them as I give; but the squaws give children, while yet suckling, half-cooked meat to eat while being treated for diarrhea or dysentery, and the little wretches eat it with the avidity of carnivorous animals. It is hard for any treatment to avail in the face of this miserable habit.

September: There were 6 deaths during the month, 2 from disease of the bowels, 1 from disease of the brain, and 3 from unknown causes, as they were kept in the Indian houses and doubtless treated by the Indians themselves. With a view of stopping this vicious custom the acting assistant surgeon who attends these Indians was instructed to make frequent visits to their homes to detect just such cases, but with every care it is often difficult to detect them.

October: The causes of death in 3 of the 4 fatal cases were bowel affections. The other was a chronic case of general debility in an old woman. One of those bowel cases was certainly consumption, and it is probable that all 3 were of the same character. When this affection attacks the bowels of whites or Indians it is almost invariably fatal. Bowel affections are yet quite prevalent among the children, owing chiefly to improper diet, but the mothers are being gradually educated in this respect.

Maj. C. E. MUNN.—*January, 1892:* The employment of Indian women as nurses in

the female ward has been recommended by the medical director of the department, but I believe no officer of the medical corps of the Army who has been on duty here has done so; and it is felt by those most interested that practically such service would be dangerous, through ignorance of language and general aversion to the duty of sympathetic and intelligent care of the sick. It is understood, however, that in time of epidemic or unusual number of grave cases some such service could be utilized through selection of Indian wives or relatives of the sick. It is found by experience here that members of one family will not willingly nurse sick members of another family.

April: I have been assisted by the arrival of Asst. Surg. W. C. Borden, U. S. Army, whom in a division of duties I assigned to the care of the Indian prisoners' camp and the annex hospital wards. After consultation, he made a thorough inspection of every family with a view to stopping the spread of tubercular and ordinary filth diseases. He believes that certain radical sanitary improvements should be effected, and has embodied his ideas in a communication, which I return to-day, recommending that it be forwarded with this. My only fear in giving approval is the doubt of its practicability, yet it would seem best to try. * * * So much remains to be done regarding infected clothing, etc., that, as I said before, Dr. Borden's method should, with modifications, be tried, which I present as follows: For some time there should be, first, an inspection of houses, including the family, made weekly by a medical officer. This has been done by the line officers, but a medical officer might point out defects which would otherwise be overlooked. This should be done at some appointed hour, when the service would not interfere with other military requirements of the interpreter and camp officers.

Inspections made at unappointed hours would, I think, interfere with the habits of the families; many members might be absent gardening, etc. All infected clothing should be destroyed; but authority to issue necessary articles in place must follow. All neglects of cleanliness should be reported. Myself or the junior medical officer on duty here is at all times ready and anxious for the duties recommended, and we believe that improvements can be made. Yet the most enthusiastic, after some experience here, find it difficult to lay down sanitary rules definitely as at first might seem simple enough. There are no earth closets at the camp, yet the ground is not made unsanitary, because the adults from habit go to a distance in the woods, and the children can not spoil a sandy plain constantly policed. The water supply will not be affected, because there are but few deep wells away from the cottages. Earth closets or water-closets are contemplated, but, as yet, from the present social habits they would not be used. And here I close my remarks to the post commandant with the expression that constant education of the older Indians regarding the dangers of infection by consumption, which I know has been going on, will eventually lead to decreased death rates and a lessened number of slum diseases. Any violent changes I deprecate.

June: In my last inspection I find the dwellings of the Indian prisoners clean, even tidy, a corresponding locality of boarding houses in any New England factory village not so clean, and my whole inspection to-day was fairly satisfactory. Among these people (the village community) I find an ordinary amount of sickness. The teething, weaning diseases of childhood, the common diseases of children at this season, were usual, perhaps more frequent. Now, anywhere in the world, little children have a milk diet when it can be obtained, and these have none. The mothers nurse their children until the breasts furnish no more; and the critical period of weaning, the "second summer," as it is called in the North, the baby is teething, the mother has no milk, and the food is the soldier's or prisoner's rations, modified only by ignorant parents. I have addressed a letter of sanitary advice on this subject—the need of some cows at a place where many babies of diseased parents are born and developed.

Lieut. W. W. WOTHERSPOON, *Twelfth Infantry, in charge of Indian prisoners of war.*—The statement of Asst. Surg. Borden that the Indian village is now in a most unhygienic and unsanitary condition, and that of the 75 houses inspected 45 were simply accumulations of filth, would seem to require some explanation, and I accordingly submit the following: Having been deeply impressed with the necessity of guarding against the spread of diseases through the accumulation of dirt about the camp, in the houses, and on the persons of the Indians, the following regulations were made by me and have been enforced to the best of my ability during the past six months with, from my point of view, most sanitary results, considering the state of civilization of the Indians: (1) The entire camp, except the parade ground, is to be swept daily the first thing in the morning, the house sweepings and the sweepings of the ground about the houses being gathered into piles, which are at once removed and burned; this in order to destroy consumption germs in the sputa deposited about the houses. (2) Each house is to be washed out, thoroughly cleaned, and prepared for inspection once each week (Sunday). (3) All children excepting those in arms to be paraded once each week (Sunday), when they shall be carefully inspected for

any apparent disease and as to personal cleanliness. (4) That no nuisance shall be committed within 100 hundred yards of the limits of the village; any deposits made by the small children to be removed at once. (5) That an Indian, detailed and paid for that purpose, shall inspect the houses from time to time, other than the regular weekly inspection, reporting any houses needing immediate attention as regards filthiness, and in order that the householders may be punished. (6) That in case of a death among the Indians in their village, all clothing, personal property, and articles capable of carrying contagion should be at once burned, the house closed, thoroughly disinfected, and fumigated before another family should move in. (7) That all cases of disease or sickness coming under the observation of the superintendent and interpreter, as well as the officers of the camp, should at once be sent to the surgeon for treatment. These with other minor precautions have been adopted to try to purify the camp. I know of no cases of violation of these rules.

The camp is inspected daily by myself or my assistants, the houses are inspected weekly on Sunday morning, and the children weekly on Sunday morning, at which time a most minute inspection is made not only of their clothing, but of their hair, skin, and finger nails. In these inspections members of the guard attend. Any child found unclean is at once sent to its parents, and after being washed and clothed, again inspected. Any house found unclean is ordered cleaned, the occupants being given additional punishment if the orders are not at once complied with. For personal cleanliness these provisions have been made: Each household has from one to two washtubs and scrubbing boards, an abundant supply of soap, and lines to hang out the clothing to dry, an umlimited supply of straw and bed sacks for change of bedding. There are four sweat houses or steam baths almost constantly in use, besides a swimming tank 29 feet by 17 feet, with constant flow of water, now being completed. The hair of all the men and boys has been cut short, with a few exceptions among the old men. From the above I think it will be evident that every effort has been made to improve these people by insisting upon personal cleanliness, as well as cleanliness about and in their houses. The apparent discrepancy between this statement and Dr. Borden's must, I think, be looked for in the relative ideas of cleanliness held by each of us. What would naturally seem to him, coming freshly among these people and considering the question from a hygienic standpoint, a very far from satisfactory state of sanitation would equally naturally appear to me, who view the question from the standpoint of the progress made in eighteen months very satisfactory, having found these people in filthy nakedness, clothed only in rags, with hair infested with vermin, their skins caked with accumulated filth, their houses filled with dirt and offal, sleeping on the ground in the most abominable rags, cooking and eating on the ground, treating and killing their own sick. The contrast seems to me most striking, and I can not but feel that it is most gratifying.

Having referred at some length to the methods evolved to meet the end that Capt. Borden wishes to accomplish, I would respectfully state that I am fully in accord with him in his desire for improving the condition of the camp. I believe his recommendations both wise and practicable, with very slight modifications, which would in noway affect the carrying out of his recommendations regarding the personal inspection of the people. I would suggest that it be made of each family in front of its dwelling, that both the inspection of the houses and the people be made on a set day, that the recommendations as to the destruction of filthy property be modified so as to have all public property—which, according to regulations, can be destroyed only by an inspector—carefully cleaned and disinfected before being further used. I have talked to the influential Indians in the camp, who are willing and anxious that every effort should be made to remove disease from among them. I have done this because I deem it wise to have assistance rather than resistance from them. I have made inquiries as to the cost of an 80-gallon boiler for the purpose of boiling all infected articles, and will willingly put a woman in charge of this work and pay her for it. In other words, I am not only willing but most anxious at all times to assist with all my power the surgeon on duty with these people, and will welcome at all times such wise recommendations as those made in this paper. My only reason for dwelling at such length upon this subject is to remove any impression that might arise from reading Dr. Borden's report—an impression I am sure he did not intend to convey—that no effort had been made toward sanitary or improved hygienic conditions. In conclusion, I recommend that necessary orders to carry out the suggestions made be issued at once, with the modification suggested as to the disposal of public property. There can be no doubt as to the legality as well as wisdom of the order.

List of special reports received from Army medical officers during the calendar year 1891.

MEDICAL REPORTS.

Name.	Rank.	Report.
Birmingham, H. P	Capt. and asst. surgeon	Pneumonia; pleurisy; emphysema; paracentesis; recovery.
Bradley, A. E	First lieut. and asst. surgeon.	Hyperemesis, due to compound hypermetropic astigmatism, or to reflex neurosis from the male genital organs.
Cleary P. J. A	Major and surgeon	Epidemic catarrh; death.
Do	do	Epidemic catarrh; apoplexy; death; autopsy.
Cronkhite, H. M	do	Malignant pustules; unguentum hydrargiri nitratis efficient in early stage.
Corson, J. K	do	Aneurism of the aorta; autopsy.
DeLoffre, A. A	Capt. and asst. surgeon	Phthisis treated with Koch lymph; discontinued by patient's request.
Egan, P R	do	Variola.
Gibson, J. R	Major and surgeon	Diabetes; death; autopsy.
Glennan, J. D	First lieut. and asst. surgeon.	Autopsy; death from delirium tremens.
Gorgas, W. C	Capt. and asst. surgeon	Phthisis; treatment with Koch's lymph. Two cases; improvement.
		Origin of typhoid fever at Fort Barrancas, Fla., in April.
Hartsuff, A	Major and surgeon	Epileptiform convulsion; malingering.
		Subacute muscular rheumatism.
		Chronic dyspepsia; cured.
		Asthma, due to climatic conditions; two cases.
Harvey, P. F	do	Epidemic influenza at Fort Keogh, Mont.
		Thermograph; pleuropneumonia.
		Pneumonia; thermograph.
Heizman, C. L	do	Phthisis; treatment with Koch's lymph; improvement; thermograph.
Horton, S. M	do	Autopsy; acute alcoholism.
Huntington, D. L	Lieut. col. and surgeon	Pneumonia; two cases; recovery; thermographs.
Jarvis, M. S	First lieut. and asst. surgeon.	Diphtheria (child), at Fort Bayard, N. Mex.
Kneedler, W. L	Capt. and asst. surgeon	Sanitary environment of Jackson Barracks, La.
		Catarrhal bronchitis; recovery.
		Pneumonia; delirium tremens; death.
		Fibroma of vocal chord.
La Garde, L. A	do	Congenital anisometropia, two cases; remarks.
		Secondary amputation of the knee-joint; recovery.
		Death from exposure to cold.
		Clinical memoranda; diseases of the eye.
Lippincott, H	Major and surgeon	Locomotor ataxia.
McElderry, H	do	Typhoid fever; thermograph.
McVay, H. E	First lieut. and asst. surgeon.	Autopsy; peritonitis attending rupture of pyæmic abscess of liver.
		Epidemic influenza at Fort Mackinac, Mich.; composite thermograph; twelve cases.
Mason, C. F	do	Epidemic catarrh at Fort Washakie, Wyo.
		Epidemic influenza at Fort Washakie, Wyo., April and May, 1891.
		Acute articular rheumatism treated with phenacetin.
Macauley, C. N. B	Capt. and asst. surgeon	Epidemic influenza at Fort Lewis, Colo.
Matthews, W	Major and surgeon	Epidemic influenza at Fort Wingate, N. Mex.
Moncrieff, D. S	Act. asst. surgeon	Malarial fever.
Munn, C. E	Major and surgeon	Thermographs in three cases of typhoid fever at Fort Monroe.
O'Reilly, R. M	do	Typhoid fever; recovery; thermograph.
Phillips, J. L	Capt. and asst. surgeon	Typhoid fever; death; thermograph.
		Typhoid fever at Fort Reno; death; thermograph.
Powell, J. L	do	Epidemic influenza at Fort Randall, S. Dak.
		Typhoid fever; recovery; thermograph.
		Five cases of typhoid fever at Fort Randall, S. Dak.
Poindexter, J. D	First lieut. and asst. surgeon.	Epidemic pertussis at Camp Poplar River, Mont.
Rafferty, O	do	Variola; death; thermograph.
Smith, A. M	do	Acute desquamative nephritis; death.
Suter, W. N	do	Quinsy; death.
Tesson, L. S	Capt. and asst. surgeon	Epidemic influenza at Fort Sidney, Nebr.
Tilton, H. R	Major and surgeon	Pneumonia, pleurisy; death.
		Scarlet fever; tracheotomy and opening of deep cervical abscesses.
Turner, S. S	Act. asst. surgeon	Acute hepatitis.
Vickery, R. S	Major and surgeon	Asthma and enlarged liver.
Willcox, C	First lieut. and asst. surgeon.	Sciatica.
Winne, C. K	Capt. and asst. surgeon	Pneumonia; recovery; thermograph.
		Variola; thermograph.
Worthington, J. C	do	Pneumonia; death; thermograph.

List of special reports received from Army medical officers, etc.—Continued.

MEDICAL REPORTS—Continued.

Name.	Rank.	Report.
White, R. H	Major and surgeon	Remittent fever at Fort Myer, Va.; thirteen thermographs.
		Typhoid fever; death; thermograph.
Woodruff, C. E	Capt. and asst. surgeon	Epidemic influenza, Fort Missoula, Mont.
Wright, J. P	Lieut. col. and surgeon	Purpura hemorrhagica nonfebrilis; death.
		Speedy and satisfactory results of use of thallin in urethritis.
		Gratifying results of use of salol in enteric fever; thermograph.
Wyeth, M. C	Capt. and asst. surgeon	Two cases of varioloid at Fort McIntosh, Tex.

SURGICAL REPORTS.

Arthur, W. H	Capt. and asst. surgeon	Dislocation of costal cartilages; remarkable for trifling symptoms resulting.
Bradley, A. E	First lieut. and asst. surgeon.	Three cases of amputation.
		Imperforate anus, child; successful operation through perineum.
Bannister, J. M	Capt. and asst. surgeon	Laryngotomy; laryngeal phthisis; recovery.
		Marked astigmatism unmasked by an injury to face.
Brown, P. R	do	Shot wound, arm.
		Shot wound, shoulder.
Cleary, P. J. A	Major and surgeon	Incised wound, throat; great loss of blood; rapid recuperative powers.
Clendenin, P	Capt. and asst. surgeon	Volkman's operation for hydrocele; recovery.
Edie, G. L	do	Autopsy in a case of shot wound of abdomen.
Frick, A. P	Act. asst. surgeon	Death from compression of the brain.
Gorgas, W. C	Capt. and asst. surgeon	Epithelioma.
		Laryngeal diphtheria; tracheotomy.
		Foreign body in left bronchus.
		Rupture of liver.
		Shot wounds, head.
Girard, A. C	Major and surgeon	Shot wound, abdomen; death.
Hartsuff, A	do	Malingering, two cases.
Harvey, P. F	do	Morphine poisoning; recovery.
Holland, F. H	Act. asst. surgeon	Acute general peritonitis caused by a kick; death.
Hubbard, V. B	Major and surgeon	Obstruction of bowels.
Jarvis, N. S	First lieut. and asst. surgeon.	Lightning stroke.
Kœrper, E. A	Major and surgeon	Shot wound, thorax; autopsy.
Lauderdale, J. V	do	List of wounded Indian prisoners treated at Pine Ridge, S. Dak.
La Garde, L. A	Capt. and asst. surgeon	Perinephritic abscess; lumbar incision; recovery.
Maus, L. M	do	Shot wound, bladder.
Mason, C. F	First lieut. and asst. surgeon.	Ganglion, wrist; partial excision.
Moncrieff, D. S	Act. asst. surgeon	Death from overdose of medicine, self-administered.
		Fracture of fibula.
McElderry, H	Major and surgeon	Cancer of breast.
		Perityphlitic abscess; incision; recovery.
		Shot wound; removal of necrosed bone.
Phillips, J. L	Capt. and asst. surgeon	Stricture of œsophagus.
Price, C. E	do	Suicide; shot wound of chest.
Shannon, W. C	do	Shot wound, chest and abdomen; death.
Sewall, C. A	Act. asst. surgeon	Rattlesnake bite; recovery.
Tilton, H. R	Major and surgeon	Operation on lower eyelid.
		Amputation for lacerated wound of hand.
Winne, C. K	do	Suicide; incised wound, throat.
Wright, J. P	Lieut. col. and surgeon	Amputation, forearm, for laceration of hand.
		Hæmatocele from muscular strain.
Wolverton, W. D	Major and surgeon	Shot wound of abdomen; death.
Woodruff, E	do	Shot wound, abdomen; death.
Walters, F. G	Hospital steward	Fracture of femur; recovery.

SURGICAL OPERATIONS.

During the year the Medical Department of the Army reported 207 surgical operations, 72 of which were necessitated by injuries and 135 by disease. The number, character, and results of these are shown in the following statement:

Nature of operation.	Disease or injury.	Total.	Recovered.	Died.	Remarks.
Removal of tumors	Sebaceous, 7; encysted, 7; lipoma, 5; fibrous, 6; adenoma, 1; epithelioma, 2.	28	28		Scalp, 12; face, 9; shoulder, 1; side, 1; abdomen, hand, 2; foot, 2.
Removal of foreign bodies		7			
Bullets and shot	Shot wounds	7	7		Shoulder, 2; thigh 3; foot, 2.
Opening of abscesses		5			
Incisions	Perityphlitic, 1; rectal, 2; perineal, 1; perinephritic, 1.	5	5		
Operations on the eye		7			
Pterygium		5	5		
Iridectomy		1	1		
Extraction of lens		1	1		
Operations on the mouth		5			
Excision, tonsils	Tonsilitis, 3; hypertrophy, 1.	4	4		
Uvula	Elongated uvula	1	1		
Operation on arteries		2			
Ligation	Incised, 1; shot, 1	2	2		Radial, 1; superior profunda, 1.
Operation on veins		6			
Varicocele		5	5		Ligation.
Varicose veins		1	1		
Operations on the respiratory organs.		4			
Laryngotomy	Laryngeal phthisis	1	1		
Paracentesis	Pleurisy, tuberculosis.	2		2	
Tracheotomy	Laryngeal diphtheria.	1		1	Survived 14 days.
Operations on the digestive organs.		39			
Laparotomy	Shot, 1; incision, 1; abscess, 1.	3	2	1	Survived 2 days.
Hernia		2	2		
Fistula in ano		15	15		Incision.
Hemorrhoids		17	16	1	Ligation, 5; incision, 4; excision, 5; clamp, 2; dilatation, 4.
Fissure of anus		1	1		
Imperforate anus		1	1		
Operations on the lymphatic organs.		7			
Removal of glands	Venereal, 2; non-venereal, 5.	7	7		
Operations on the urinary organs.		6			
Stricture, internal urethrotomy.	Gonorrheal, 3	3	3		
External urethrotomy		3	3		
Operations on the generative organs.		10			
Phymosis	Congenital, 1; gonorrheal, 2.	6	6		Circumcision.
Hydrocele		2	2		
Removal of testicle	Hydrocele	1	1		
Removal of part of scrotum	Tubercular testicle.	1	1		
Operation on bones		14			
Removal of portions	Shot, 3; fractures, 1; necrosis, 4.	9	8	1	Cranium, 1; ulna, 2; humerus, 1; wrist, 1; phalanges, 4.
Trephining	Compression brain	1		1	
Excision	Shot, 2; fracture, 1	3	3		Ulna, 1; metacarpal, 1; metatarsal, 1.
Periosteotomy		1	1		Clavicle.
Operations on joints		16			
Reduction of dislocations		13	13		Shoulder, 6; elbow, 2; knee, 1; ankle, 4.

Nature of operation.	Disease or injury.	Total.	Recovered.	Died.	Remarks.
Aspiration		1	1		
Forcible flexion		2	2		Knee joint.
Operation on limbs		**39**			
Amputation for injury:					
Forearm	Shot	1	1		Primary.
Fingers	Shot, 4; injury, 12; frost, 1.	17	17		Primary, 13; intermediary, 4.
Thigh	Fractures, 4	4	4		Primary, 2; secondary, 2.
Knee joint	Fractures	2	2		Primary, 1; secondary, 1.
Legs	Shot, 3, fracture, 1, necrosis, 2.	6	6		Primary, 2; intermediary, 4.
Toes	Injury	4	4		Primary, 3; intermediary, 1.
Amputation for disease:					
Fingers	Felon	1	1		
Leg	Gangrene	2	2		
Toes	Deformity	2	2		
Operation on skin, etc		**12**			
Ingrowing nails		10	10		
On cicatrices		2	2		

SANITARY CONDITION OF THE ARMY.

QUARTERS.

Although much has been done during the past few years to improve the condition of our military stations by erecting new barrack buildings, repairing and improving old ones, and by the abandonment of posts that were falling into decay, the sanitary reports of post surgeons and medical directors make frequent mention of overcrowding and deficient ventilation, and occasionally of dampness, rotting woodwork, leaky roofs, and falling plaster.

At Fort Wayne, Mich., the quarters are reported as overcrowded, poorly ventilated, and in need of repairs. At Fort Schuyler, N. Y., the barrack rooms which had been barely habitable have been improved by extensive repairs, yet the age and decaying condition of many of the buildings prevent much improvement in the sanitary condition of the post. Fort Brown, Tex., is in a similar state of decay. Reports from Camp Eagle Pass, Tex., are exceedingly unsatisfactory. Windstorms blow the dust through many crevices, the roofs leak and are infested with bats, centipedes, and scorpions, while skunks and snakes make their homes beneath the floors. The quarters of the enlisted men at San Carlos, Ariz., are board structures, fairly cool when open at the sides, but when the frequent dust storms of summer necessitate their closure they become converted into veritable hot-boxes. The quarters at Fort Grant also are overcrowded and unventilated, and according to Col. Joseph R. Smith should be replaced by new buildings.

Reports of overcrowding and consequent deficient ventilation are, however, of more frequent occurrence than those of decay and want of repairs. Some of the squad rooms at St. Francis Barracks, Fla., gave only 300 cubic feet of space to each man, the bunks almost touching. Here the plan of putting part of the command under canvas was tried, but had to be given up on account of the dampness of the soil. At Fort McKinney, Wyo., the old barrack buildings, although recently repaired, are unventilated and much too small for the number of men, the bunks being separated by an interval of not more than 1 foot. At Fort Bowie, Ariz., an increase to the garrison temporarily reduced the air space per man to 400 cubic feet. At Angel Island, California, five

sets of company quarters furnished, respectively, 500, 518, 518, 618, and 698 cubic feet per man. At Fort Mackinac, Mich., an increase of strength at one time lessened the space per man to 600 cubic feet; this in a climate which requires double windows and necessarily limits ventilation during the winter season. To remedy overcrowding and imperfect ventilation at Fort Meade, S. Dak., extensions of the barrack rooms were approved with ingress and exit flues. Air was admitted into the old squad rooms by channels opening under the stoves, but no suitable provision was made for the exit of foul air; and in extending the quarters during the past year no method of ventilation was introduced into the extensions. These defects, however, have been remedied recently. The ventilation of the barrack buildings at Fort Sheridan, Ill., and Fort Buford, N. Dak., are such as to require measures for improvement. At Fort Niagara, N. Y., cases of coal-gas poisoning were a result of defective ventilation, and at Fort Brady, Mich., severe colds and headaches resulted from the same cause. Capt. J. L. Powell recommends that at Fort Randall, S. Dak., the middle pane of glass of the lower outer sash of each double window be cut in two horizontally and the lower half replaced by a wooden slide to be opened or shut at pleasure. These apertures, with two exit shafts extending beyond the ridge, would improve the ventilation during the winter season. At Fort Assinniboine, Mont., Maj. Charles B. Byrne recommends special exit flues, because if the ventilating registers open into the stovepipe flue they interfere with the draft of the heating stove and are closed by the men in cold weather. Lieut. Charles F. Mason recommends McKinnel's tubes for the squad rooms at Fort Washakie, Wyo. The same officer comments on the need for ventilation under the floors of occupied buildings in view of the dampness and decay discovered on tearing up the flooring in a set of officer's quarters. Maj. De Witt also refers to this ventilation of the site by recommending large square funnels to be inserted into the ventilating apertures under the buildings at Fort Sam Houston, Tex.

The guard houses of our military stations have been so much improved of late years that few complaints are now found in the reports of medical officers. Ventilation is needful at Boise Barracks, Idaho; ventilation and more space at Fort McHenry, Md. New buildings are called for at five posts: At Fort Sam Houston, Tex., on account of unsuitability of plan and location; at Davids Island, N. Y., and Fort Buford, N. Dak., because the present buildings are radically defective in general plan and sanitary features; and at Fort Spokane, Wash., and Fort McKinney, Wyo., on account of decay, vermin, overcrowding, and bad ventilation.

Complaints as to hospital accommodation are infrequent. The hospital at Fort McIntosh, Tex., requires repairs, while that at Rock Island Arsenal, Ill., is so dilapidated as to be beyond repair. The wards at San Carlos, Ariz., were reported as affording insufficient accommodation, but an allotment has been made for their extension. A new hospital was opened at Columbus Barracks, Ohio, on May 25 last, and the old building abandoned as a hospital.

Camp Eagle Pass, Texas.—Lieut. Ogden Rafferty: These buildings were originally built about the year 1849, when the old post of Fort Duncan was established. * * * The foundation stones alone mark the sites of some of the buildings, others have been abandoned as insecure, while those in use have been rudely patched in the vain effort to make them fit for white people to live in. At one set of quarters during the month it was necessary at 3 a. m. to kill a snake 6 feet in length by 8 inches in circumference, that had crawled into the servant's room through a crevice in the wall. The next evening another snake crawled out from beneath the chairs of the family

who were sitting on the porch. A week later a square yard of plaster ceiling fell on the sewing machine that had just been in use. These annoyances, to say nothing of the occasional visits of centipedes and scorpions, induce me to recommend that these old stone buildings be torn down and the stones used for foundations of buildings of modern structure and conveniences.

Maj. Calvin DeWitt, June 23, 1892: The barrack occupied by one troop of cavalry forming the garrison is kept in as good police as a building with a worn-out patched floor, a leaky roof, no ceiling, and damaged wall can be. It has none of the conveniences, as bath room, lavatory, or recreation room, of a modern barrack, except such temporary makeshifts as could be constructed out of material on hand. The officers' quarters are long, low, one-story structures, like all the buildings of brick or adobe; in little better repair than the other occupied buildings. Each consists of a different number of rooms added at various times to the two large rooms erected at first. They have no bath facilities, and no plumbing, but in the yards are earth closets. No modern conveniences except cook stoves. The married enlisted men occupy such habitable, or partially habitable, buildings as can be given to them. All are in a bad condition. The guardhouse is old, with low ceilings, small, barred windows, and irregular flat-stone floor. It presented to the smell evidence of its occupancy. It was clean, but unsanitary.

DEPARTMENT OF ARIZONA.—*Col. J. R. Smith, medical director:* At some of the posts there are not enough of quarters. At Huachuca two families are quartered in single buildings, which were only intended for one, having a single hall, kitchen, and privy. This is exceedingly objectionable. Some of the crowding is consequent upon the abandonment of posts; larger garrisons are sent to the remaining posts than they can accommodate. It seems but right to put up sufficient quarters.

ST. FRANCIS BARRACKS, FLA.—*Maj D. L. Huntington:* The quarters are entirely inadequate for the proper housing of the number of troops comprising the command. The air space per man throughout the barracks is much below the standard required for health; in some squad rooms going below 300 cubic feet per man, and under the most favorable circumstances not exceeding 500 feet. The beds nearly or quite touch one another. The fact that the climate is mild, allowing free ventilation by open windows and doors, has heretofore prevented sickness; but at this season (November), with its great variations of temperature, necessitating the closure of the doors, the air becomes fouled and poisoned. The buildings are mostly old and devoid of many of the conveniences essential to the welfare of the troops. Great care has been taken to keep the room in the best sanitary condition, and only the strictest care in this respect will prevent the evils of overcrowding. The plan of placing a part of the command in tents has been tried; but owing to the condition of the soil, its dampness and chilliness producing bronchial troubles, it has been abandoned.

ANGEL ISLAND, CAL.—*Maj. W. H. Gardner:* Abundant testimony of skilled professional observers has shown that human beings can not be overcrowded without soon showing the effects of it in some form of disease. To be free from sickness and capable of performing their alloted tasks in life human beings require a plentiful supply of fresh air, and those whose duties require them to be a large part of their time out of doors, such as soldiers, require a more plentiful supply of fresh air than those whose habits and occupations keep them in overheated, ill-ventilated rooms, where their systems after a time become tolerant of impure air and poisonous exhalations of their own and other human bodies. In all these quarters, even with the small number of men here, there is not, in one single instance, even one-half of the cubic space required for health; and should these companies be recruited up to the standard of 58 men to the company they could not get over one-third of what is required. Since coming from Pine Ridge Agency the sick list of the command has ranged from 10 to 17 each day, and it shows no tendency to decrease; and, while I do not assert that all or even half of the cases taken on the sick list are due to overcrowding, still I am confident that a considerable number of them are. I would therefore respectfully recommend that additional quarters for troops be erected at this post, or that at least two companies be moved to another station, so that the vacated quarters could be used for the companies left here. * * * There are a good many of these cases taken on the sick list that are undoubtedly due to the effects of overcrowding. But the sick report does not actually show on its face the total effects of this deprivation of a sufficient amount of pure air, for many of the enlisted men come to me each day complaining of headache, obscure pains, and lassitude, that are undoubtedly due to the overcrowded condition of the barracks and are not taken on the sick list; and I believe that nearly all the cases of sore throat, bronchitis, etc., are due to the fact that the men prefer to open the windows above their heads to get the pure cold air rather than breathe the hot impure air.

The commanding officer: I do not believe the health or comfort of this command would be in any degree improved by reducing the number of companies at this post. * * * In the five years the First Infantry has occupied this post each company has occupied its own barracks even when there have been vacant rooms, and without apparent

injury to their health. While the quarters are not as large as they should be for the full allowance of men per company, 58, a number which has not been reached for some years, the companies rarely exceeding 40 men, which is about the present strength, I think they are sufficiently large for the number of men that actually occupy them. In making the calculation for the air space the post surgeon took no account of the men who do not sleep in the rooms measured, but who occupy other rooms in the building, as the tailor shop, kitchen, etc., and men who are on guard. A count made last night of the men actually sleeping in the rooms referred to shows, Company A, 27 men, giving air space of 759 cubic feet per man; Company B, 30 men, 955 feet per man; Company E, 23 men, 1,049 feet; Company G, 27 men, 768 feet; Company H, 27 men, 768 feet. This is about the number that habitually occupy these rooms, the number varying slightly every day. The health of the command has always been remarkably good here. The number of men daily on sick report during March and April last year was less than 2 per cent. Since returning from Pine Ridge there appears to have been considerable sickness for this post, but I very seriously question whether any of it is attributable to confined quarters. There are to-day ten cases on sick report, not one of which could be attributed to lack of air space.

Maj. Gardner, November 26, 1891: I visited the barracks and dormitories of the enlisted men with a view to reporting on their ventilation. The quarters were seen at that time under the best circumstances: First, because the weather was so mild and calm that several windows in each room could be kept open all night; and, second, there were no fires in any of the stoves to heat up and deteriorate the atmosphere by the products of combustion. In A Company dormitory there were 26 men * * * and 600 cubic feet air space per man. In B Company dormitory there were 32 men * * * and 814 feet per man. In E Company dormitory there were 31 men * * * and 793 feet per man. In G Company there are two dormitories. * * * In one there were 11 men * * * and 719 feet per man. The other * * * 24 men * * * and 601 feet per man. In H Company quarters there are two dormitories. In one * * * were 23 men * * * and 679 feet per man. The other * * * there were 8 men * * * and 990 feet per man. In all of these sleeping rooms there are more or less perfect attempts made at ventilation by ventilators in the peak of the roof (ridge ventilation), and by keeping the windows partially down at the top. This undoubtedly serves a good purpose, as there was very little if any odor perceptible in any of the rooms, though this systen is very imperfect, and even with the number of men found in these rooms at the time of my visit the quarters are too crowded for health, not allowing of either sufficient amount of floor space or of cubic air space per man; and moreover in cold, rainy, or windy weather men can not sleep under those open windows without running serious risk of catarrh, bronchitis, and pneumonia. I have already during the present month taken several men on the sick list with bronchitis, catarrh, and sore throat, who allege that their diseases were contracted in this manner. It is impossible upon so casual an inspection, and without proper means of making a chemical analysis of the air of the rooms, to state exactly how much and in how far the air is deteriorated, since only organic impurities and the presence of sulphureted hydrogen could be detected by the nose.

It is generally accepted as a fact by hygienists that the presence of 0.07 per cent (seven parts in 10,000) of carbonic acid is the greatest amount of this gas, either the product of respiration or of combustion, that can exist in the air without detriment; and if we allow this as the maximum amount of impurity permissible, 3,000 cubic feet of fresh air per hour will be needed for each individual. I need not say that this amount is not allowed in any of the barracks at this post.

Another great fault in this system of ventilation in all of these rooms is the fact that the cold air is admitted immediately over the beds of the men, whereas it should be admitted by air shafts from the outside opening under or near the stoves so that it could be heated before being diffused in the room. The initial air space per man should never be for well men less than 1,000 cubic feet, and double this quantity is required for sick men. This allows of the air being changed constantly and kept sufficiently pure without causing dangerous drafts. The only recommendations I can make in view of the faulty construction of these barracks are that whenever practicable the floor space should be increased to 85 or 90 square feet per man, and the cubic air space be increased to 1,000 feet; and also that the open windows over the heads of the beds be closed, and ventilating shafts be let in, opening under the stoves.

On the foregoing report the department commander remarked: "The commanding officer at Angel Island has been heretofore directed to submit estimates for improving the ventilation of the barracks and enlargement of same another year."

FORT NIAGARA, N. Y.—*Maj. A. C. Girard*: Ventilation of barracks. During the month four men of Company C were at various times affected with foul-air poisoning

to such an extent as to necessitate hospital treatment. Other men felt unwell without reporting sick. On visiting the dormitories about 1 a. m. I found that, owing to stove doors being open and doors and windows closed, a very perceptible amount of coal gas mixed with human exhalations made the air almost unfit for respiration. This clearly justifies the repeated efforts on the part of the post surgeon to have the ventilation of the dormitories improved. These evils have been to a great extent remedied during the month by improvised aspirating ventilators, stovepipe connected by a T joint with the smoke pipe of the stoves near the flues, and terminating near the floor with an open elbow. This is an excellent makeshift. A permanent system of ventilation should now be provided for, and I respectfully recommend that steps be taken leading thereto.

The post quartermaster remarked on this report that detailed plans and estimates were being prepared by direction of the quartermaster-general for a proper system of ventilation for the barrack building, and would be forwarded for approval within a few days.

FORT MEADE, S. DAK.—*Maj. J. M. Brown, October, 1891:* In the new squad rooms occupied by D and K troops a condition of overcrowding exists; not more than 11 men should sleep in these rooms. *November, 1891:* Complaints of insufficient ventilation and overcrowding are renewed.

Col. C. H. Alden, medical director: In my report of December 6, 1889, to department commander of an inspection at Fort Meade, I invited attention to the deficient ventilation of the barracks as follows: "The barracks are too crowded and should, if possible, be enlarged. The ventilation of the barracks is unsatisfactory. Air is admitted by apertures inside walls and openings under stoves, but there is no provision for escape of air except in some cases through the ridge. To secure good discharge of air in winter the chimneys should be utilized as exit flues and registers put into them near floor and ceiling, the chimneys being built up from the floor where this is not already the case. If the chimneys are of insufficient capacity a flue should be built alongside." It was understood that the department commander gave instructions not only for enlargement of the barracks, but for constructing exit flues as suggested. The extension of the barracks, not accomplished in 1890, was completed in 1891, but it seems no arrangements for ventilation were put into the extensions and no exit flues provided for the old squad rooms. It is recommended that the suggestions of the post surgeon on this subject (which are not objected to by the post commander) be carried out. This being done the air space would probably be sufficient. Natural or accidental ventilation by doors and windows can not be relied upon in winter when these openings are closed.

Lieut. John A. Johnston, post quartermaster: In reply to instructions in regard to ventilation of old barracks of Troops A, B, D, and K, and the new additions, I have to say that, as I understand it, perfect ventilation is the gradual, continuous, and complete changing of the air contained in any structure, or to a less perfect degree the constant, continuous admixture of sufficient fresh air with the foul to reduce the mixture to a healthful standard. This is true whatever may be the cubic space or number of men housed, these being but elements which render the solution of the problem more or less difficult and consequently more or less expensive. Ventilation through windows, doors, cracks, etc., takes place continuously, particularly in this climate and season. This, I believe, is called natural or insensible ventilation in contradistinction to artificial or systematic means for the same purpose. Now, where the occupations of the men are not violent, personal cleanliness the rule, cubic space generous, and the number of men not too great, natural ventilation in these weather-cracked frame buildings will more than accomplish the desired result.

If to the above elements we add the refinements of light and heat as consumers and vitiators of fresh air we add to the problem and increase the expense. The soldier's occupation is not one of violent exercise—he is as a rule, where the Government affords him the proper facilities, as at this post, personally cleanly—and in all the barracks complained of he has about 1,000 cubic feet of allotted space, which is, I believe, 500 feet in excess of that recommended by Col. Woodhull. In the old barracks referred to, occupied on an average by about 24 men, natural ventilation is accomplished through twenty-four windows and two or three doors, supplemented by wall, floor, and ceiling ventilation, there being thirteen or fourteen wall ventilators, a floor air conduit opening under each fire, and two or three ceiling traps opening in blind attic, the natural ventilation through the roof of these buildings being quite great; and in my opinion their efficient ventilation can be accomplished by proper care with existing arrangements. In the additions referred to natural ventilation is depended on to accomplish the desired result through ten windows, two doors, and three or four ceiling traps. The cubic space per man in the D Troop addition is about or a little over 1,000 feet. No system of ventilation other than the

natural one is contemplated in the specifications on file in this office. Whether or not this is sufficient can easily be demonstrated by placing it in favorable state for natural ventilation within limits of comfort and testing it after a night's occupancy. The vitiation noticeable to the sense is now conceded to be largely due to decomposition of organic matter thrown off from the body, and largely increased in case of illness, rather than to results accomplished by the exhaled breath, light, and fires. Hence the test for overcrowding and the consequent necessity for either reducing the number or adding to the means for fresh air supply to reduce the mixture to a healthful standard. I am under the impression, and I think the troop commanders will bear me out, that the additions are sufficiently ventilated, and, if anything, are better than the main barrack rooms.

Maj. J. S. BILLINGS: I presume there is no doubt as to the necessity of ventilating the barracks at Fort Meade, nor is there any necessity of replying to the arguments of Lieut. Johnston, seeing that they have been duly considered by the medical director, and by the post and department commanders. Whether the occupation of the men be light or heavy has nothing to do with the need of ventilation, as the principal pollution of the air is due to exhalation of organic matters from the air passages. The recommendation, however, of the post surgeon in the sanitary report, that if ventilating shafts can not be introduced alongside the chimneys, then "boxed shafts 36 by 24 inches be placed over each stove extending from ceiling beyond the ridge" would give most unsatisfactory results, because the column of heated air rising from above the stove would pass directly upwards and out through these ventilating shafts, leaving the room to be warmed solely by direct radiation, for which purpose the stoves would be quite insufficient. The exit shafts, in cold weather at all events, should open only near the floor, although openings in them near the ceiling may be provided for use in moderate weather, these openings being fitted with shutters closing tightly, which are to be closed in very cold weather. The supplying of such shafts, and of openings for bringing the air in around the stoves, ought not to be a costly matter, but of course the introduction and warming of fresh air will involve an increased expenditure for fuel. It seems to me it would be well for the Surgeon-General to call the attention of the proper authorities to the need for providing this ventilation, in order to maintain the best conditions for health of the soldiers, and to suggest that the necessary means for this purpose be provided.

FORT RANDALL, S. DAK.—*Capt. J. L. Powell:* With the approach of severe winter weather a due regard for the comfort of the men has prompted the adoption of such measures as will best insure a proper degree of warmth in the barracks, but this has to a certain extent been done at the expense of proper ventilation. The windows of the dormitories have been permanently closed, making it impossible to have a complete renewal of the air as often as the requirements of health demand. I would therefore suggest that the lower middle pane of glass of each outside sash be cut in half, and that the lower portion of the glass be substituted by a thin wooden slide, which can be opened or shut at pleasure. Indeed, I recommend that this be done in all buildings where a supplementary outside sash has been attached. By the combined action of these little inlets it is thought a sufficient volume of fresh air will be admitted into the barracks, while the incoming currents will be so broken up that they will the more quickly be raised to the temperature of the inside. By this means the inmates escape chilling drafts, as well as vitiated atmosphere. Certain it is that in very severe weather the men will be much more likely to open these little apertures than they would to raise a window or open a door for ventilation. I further recommend that two air-shafts be constructed from the ceiling to the roof in each squad room, each shaft to be not less than 10 feet in a horizontal plane and 2½ feet wide, the opening over each at the roof to be closed in by a small movable sash worked by ropes from below. The interior of each shaft should be closely plastered and the surface be made perfectly smooth.

FORT ASSINNIBOINE, MONT.—*Maj. Charles B. Byrne* recommends that ventilating shafts be constructed from the ground floors and pass vertically to and through the roof, and that ventilating registers open into the shafts, one near the floor to carry off a current from the lower stratum, and one near the ceiling for ventilation of the upper and warm air. * * * It is recommended that the openings near the ceilings above referred to be covered with fine wire gauze, or with cheese-cloth stretched across a frame. This would admit of a circulation of air without a draft. It is specially difficult to devise a measure for the proper ventilation of army barracks, as the ingress of cold air through the windows and doors and between the boards of the floor can not be regulated, or its quantity estimated. * * * If the openings in the ventilating shafts recommended be covered with a grating or gauze, and have a register inside the latter, the currents of air could be regulated and, I think, cold drafts avoided or greatly lessened. If the latter can be accomplished the incentive to shut out fresh air would be correspondingly less. The ventilating

registers into the chimneys which are in some of the squad rooms are at times rendered useless because, opening into the same flue with the pipe from the heating stove, they interfere with the draft of the latter and are closed in cold weather.

FORT SAM HOUSTON, TEX.—*Maj. Calvin De Witt:* I recommend that large square funnels, similar to those now in use in the quartermaster's depot, be put in at least four of these openings in each foundation. I believe these will aid materially in securing a constant circulation and change of air.

Under date of August 17, 1891, Maj. De Witt calls attention to the unsuitability in plan and location of the guard-house, and recommends that if one be erected it should provide—

Large air-space in the prison room equal to 1,200 cubic feet per prisoner. * * * Finished so as to prevent the lodging of vermin in the cracks or joints, where they can hide and increase; where joints are necessary they should be so constructed as to be accessible. This can be secured by lining the prison room with glazed bricks or tiles, laid as closely as possible, and in cement or other equally impervious material. * * * Lavatory bath-tubs in a separate room, where the prisoners can bathe after the day's work is over or when the commanding officer may direct. * * * Means of serving food to the prisoners in a comfortable manner.

DRAINAGE AND SEWERAGE.

At some of our posts there is no system of drainage. Waste water is thrown out to be disposed of by the soil, as at Fort Missoula, Mont., where this disposition is considered to be, and no doubt is, an increasing evil. At Fort Yates, N. Dak., the slops of the kitchens form surface pools, in winter surrounded by a wall of frozen dirt. Fort Myer, Va., requires subsoil drainage, because the continued prevalence of typhoid fever in place of the remittents that formerly prevailed at that post seem to indicate that a dryer soil is needful for the health of the garrison. (See p. 35.)

At Fort Sherman, Idaho, the representations of the post surgeon promise to secure a drainage system for that station. At other posts efforts have been made to assist the natural inclination of the surface to carry off waste water by ditches; but these have not always proved successful; as, for instance, at Fort Apache, Ariz., and at Boise Barracks, Idaho, where the ditches were the cause of so much complaint that a sewerage system connected with that of Boise City has been recommended.

A new sewerage system for Fort Monroe, with a pumping station and an output into Chesapeake Bay, has been approved and an appropriation made by Congress for its construction. Delay in carrying out these plans has been experienced on account of the bids of contractors having been largely in excess of the amount appropriated. It is important, however, that this much-needed sanitary work be commenced at once.

Meanwhile progress has been made at a number of posts. Work on a system of sewerage was commenced at Fort Niobrara, Nebr., to take the place of the foul sinks and cesspools that have been in use for so many years. Fort Ringgold, Tex., has obtained sewers during the year, and the subject of sewerage for Fort Niagara, N. Y., was under consideration by the Quartermaster's Department in April last. At Fort Meade, S. Dak., this improvement lies over on account of an uncertainty as to the permanency of the post. Repairs and improvements at Fort Mason, Cal., have been completed and action has been taken on the reports of the medical officers at Fort Stanton, N. Mex., and West Point, N. Y. The communication of Capt. W. F. Carter, part of which is given below, from the latter station merits high commendation because the care manifestly exercised in the investigation which it reports led to its favorable consideration by Congress.

Fort Snelling, Minn., and Fort Townsend, Wash., want new water-closets; at Fort Ontario, N. Y., new closets with automatic flushing arrangements have been introduced; and at Fort Leavenworth, Kans., the Quartermaster's Department has recognized the unsanitary condition of the latrines, and the work of repair and improvement will be proceeded with as soon as funds are available.

The sewage of Fort Logan, Colo., has up to this time been discharged on a neighboring ranch for disposal by irrigation, but the ranch in the progress of improvement is now on the market for building purposes and some other method of sewage disposal must soon be considered.

FORT MISSOULA, MONT.—*Lieut. Chas. E. Woodruff:* No artificial drainage. The settling of waste waters into the soil is a serious evil, which has been commented on in previous reports.

FORT YATES, N. DAK.—*Capt. A. R. Chapin:* The frequent error of obtaining a free supply of water without making any arrangement for carrying away the waste has been made at this post. The only practical method of disposing of kitchen slops, etc., in winter is by making surface pools surrounded by a wall of frozen dirt, which are frequently chopped out and carted off. In spite of all efforts these pools overflow and saturate the ground in every direction. The removal of the surface of the ground in spring can not obviate all danger from this source and the barrels used in summer are occasionally overthrown or leak. There were three cases of typhoid fever at this post in August and September, 1889, one certainly, the others possibly imported. Last year and this year there were cases which evidently originated at this post, though no positive source of infection could be discovered.

FORT MYER, VA.—*Maj. R. H. White:* Suggestion is offered that the sanitary condition of the post would be permanently improved by a system of subsoil drainage for the entire area occupied for military purposes. The subsoil is of clay and of very compact gravel, through which the rainfall passes very slowly, and when the fall is heavy many days elapse before the natural drainage is effective.

FORT SHERMAN, IDAHO.—*Maj. J. D. Hall:* The drainage system may be characterized as an unlimited confidence in the porosity of the soil; but the security arising from apparent immunity from diseases directly traceable to bad sanitation is unscientific and unreasoning.

The general commanding the department: The drainage is not satisfactory, owing to the lowness and flatness of the ground, but it is as good as it can be made. The commanding officer has done all he is able to do to improve the drainage. The necessary papers showing the problem to be solved are in this office and will soon be forwarded, and if the estimates are approved and the money furnished an effort will be made to improve the drainage of the post.

FORT APACHE, ARIZ.—*Lieut. Philip G. Wales:* As to drainage there is none. Open ditches carry filthy water over the brow of the cañon in rear of the officers' quarters, where it lies under the dense shrubbery and decomposes. These are the only means of removing the waste from our kitchens and bathrooms. There has been no discharge of waste water from a bathroom in one of the sets of officers' quarters for a long time. Where the water has gone the imagination must determine.

FORT NIOBRARA, NEBR.—*Maj. T. E. Wilcox:* The post still lacks drainage, and I have to again urge that means be adopted for its early introduction. The use of sinks and cesspits has resulted in soil-pollution to a dangerous extent.

Lieut. J. D. Poindexter: The absence of a system of sewerage is the cause of the insanitary condition. All the barracks and some of the officers' quarters have at times a strong fecal odor. In the rear of some of the barracks this smell is perpetual.

Capt. Guy L. Edie: The sewerage of the post remains in the same miserable and dangerous condition as formerly reported. There are cases of sickness in the garrison directly attributable to sewer air. The question of drainage and sewerage is in the hands of higher authority. If early action is not taken many families in this garrison will probably have cause to regret it.

Col. Dallas Bache, medical director: I have nothing to add to the representations and arguments of two years on this subject, and can only repeat that the health statistics of Fort Niobrara are such as to confirm the fears of extensive soil-pollution.

FORT RINGGOLD, TEX.—*Capt. James E. Pilcher:* The drainage of the post is bad because there is no drainage. Cesspools exist in connection with each set of quarters, into which bathing water is supposed to be emptied. while slops from the kitchen are thrown upon the ground. The great heat which produces immediate evaporation has hitherto prevented bad odors and germ dissemination, but such conduct is bound to terminate in infiltration of the soil with filth germs, awaiting only saturation with water to initiate activity. This is to be prevented by the pro-

vision of a suitable system of drainage, carrying all waste water into the river below the post. * * * Some time ago a system of sewer mains was constructed about the post, but no connections were made with the quarters. So far as the advantage contributed by them to the post is concerned they might as well run along the great wall of China. The existence of this important work without connections to make it serviceable is farcical in the extreme. Meanwhile the post is in constant danger of disease infection from the slops and other waste matters that are perforce thrown upon the ground in rear of the quarters. * * * Four months have passed since these very essential changes were recommended, during which time several cases of a remittent fever have occurred, and the situation remains unchanged. The foul effluvia emanating from the sewers, which can not be flushed out on account of the lack of connections, are evidence comprehensible by any one of the necessity of prompt action in the matter of sewer connections. I can not too strongly urge that this matter be investigated and that the causes of delay be discovered and removed at once.

FORT NIAGARA, N. Y.—*Maj. A. C. Girard:* It appears that new barracks will be completed early this summer. It is desirable that the usual mistake of not preparing the soil for the reception of buildings be avoided this time, and that not only the lines of sewers and soil pipes be located in accordance with a well-digested system, but that the soil be subdrained in connection with an outlet. The soil consists of a heavy clay which holds water tenaciously. In spring when the subsoil water is under increased pressure it forces itself through cement floors and cemented walls, as is already visible at the new post hospital, where every care, except an outlet for the subsoil water, has been taken to insure a dry situation. The outlet could not be provided until a general drain permitted connection.

FORT MONROE, VA.—*Maj. C. E. Munn:* Cesspools under the conditions here are always dangerous. They are only tolerated anywhere because regarded as temporary expedients. They have been tolerated here too long. Too much dependence is placed on the absorbent character of the soil; too little attention is given to their periodical cleaning and disinfection. I find them in dangerous nearness to cisterns of drinking water, and some have not been cleaned for months, the people most interested innocently indifferent to the possible results. Cesspools at this model military post should be disused as soon as practicable. Most civil communities have long since corrected the evil. A system of drainage for the post and environs should be urged at once.

FORT MEADE, S. DAK.—*Maj. J. Morris Brown:* Any interference with the natural drainage in the hope of improving it only makes matters worse. A thorough system of sewerage is necessary, and I recommend that steps be taken in this direction. I also recommend that the post quartermaster be directed to procure the plans of earth closets in use at other posts with the view of putting them in here and thus getting rid of the present pits. The ground must soon become thoroughly impregnated with matter from these pits.

Col. C. H. Alden, medical director: Dry-earth closets are in use at six posts in this department and give great satisfaction. Some of them have been built after a plan prepared at these headquarters and on file in the Engineer's office. It provides for ventilation and heating and for convenient administration in winter. * * * The introduction of underground sewerage at Fort Meade has not been urged in view of the cost, the doubtful permanency of the post, and the probability that water-closets and sewer connections could not be kept from freezing, the buildings not being substantially built. When it is decided that Fort Meade is to be a permanent post and proper buildings are erected, underground sewers ought to be provided.

FORT MASON, CAL.—*Capt. H. O. Perley:* The repairs and improvements allowed for this post are nearly completed. As far as it was possible to do so, every fixture, trap, and sewer has been carefully tested and the drainage of the post is now, I believe, in a safe condition. The sewers would be improved by extending them to low water and adding a tide trap to each.

FORT STANTON, N. MEX.—*Capt. J. M. Banister:* The condition of the sewer system of this post is a standing menace to the health of the garrison. The post commander has taken great interest in this matter, and with the limited means at his command has done all in his power to improve the existing condition of the sewers, but still the nuisance continues.

U. S. MILITARY ACADEMY, WEST POINT N. Y.—*Capt. W. F. Carter:* I have made a thorough inspection of all public buildings in that section of the post assigned to me for sanitary supervision, with a view to determine, in each case, what may be required to put them in satisfactory hygienic condition. The buildings especially to be considered are the barracks occupied, respectively, by the U. S. Military Academy detachment of cavalry, the U. S. Military Academy detatchment of Army service men, Quartermaster's Department, the U. S. Military Academy Band, and Company E, Battalion of Engineers.

In connection with these will be considered only the subjects of drainage (under

the several subdivisions of subsoil, surface, and roof drainage) and sewerage. Certain general conditions applying to these buildings will be first noted, and afterwards the special conditions existing in each will be specifically stated. No attempt will be made in this report to state specific plans of improvement. The conditions which actually obtain will be noted, and the remedies suggested only in a general way.

The quarters above-mentioned are situated in an irregular valley formed by the first and second plateaus along the river front on the north side of the posts; the barracks occupy the upper and narrower of these plateaus. Terminating nearly at the foundations of these buildings is the precipitate slope which descends from the large plain forming the parade ground. Upon the brow of this slope, which sweeps in a more or less curved course around the general depression containing these and many other inhabited buildings, are situated a number of officers' quarters, forming a continuous line overlooking the cavalry, Army service, and band barracks, and an isolated group almost in a line with the Engineer barracks. Back of these officers' quarters, and between them and the hills skirting the general tableland of the Point proper, is a a more or less depressed basin, which, perhaps, for years has formed the rear yards and garden plots of these quarters. Running down from the hills back of the post, at a variable depth beneath the surface of the ground, are ledges of rock which have a general trend towards the river, and in the direction of these buildings, towards the foundations of which, therefore, it is most probable the subsoil drainage tends, both by reason of the rapid decline of the ground surface and the disposition of the underlying rock beds.

It can not, of course, be determined to what extent, if indeed to any, the habitations on the plain above afford sources of pollution to any natural water veins descending from the highlands back of them. As this is, however, a possible danger, it ought to be remembered that subsoil water about the foundations of these buildings may not be pure water.

It may be added that the slope and mountain sides above and to the southward of the valley above described abound in springs, which probably give a good deal of water to the soil overlying the rock.

Each barrack has a basement, on one or more sides of which is an embankment either in contact with the walls or separated from them by an area. In all these buildings except one this embankment is very nearly level with the first floor. The basements are divided into rooms, which are used as kitchens, dining rooms, and storerooms. These rooms are entered from the lower or free side of the building, where the ground level is about the same as that of the basement floor. Only in isolated rooms, in one or two of these buildings, have concrete or cement floors been put down. The buildings will be considered in the order in which the repairs on them seem to be necessary or pressing.

Band barrack—Subsoil drainage.—In the construction of this building no measures whatever were taken, so far as can be seen, to secure the drainage of the soil around and beneath the foundations, or to prevent moisture rising along the cellar walls above the floor level. It is therefore likely that the subsoil water-line often comes near the floors in the basement rooms. It is probable, from the disposition of the rock beds in the immediate vicinity, that at the east end the foundation rests on rock, and that this falls away from the floor level towards the west end, where there is presumably a greater or less depth of gravel and sand.

I am told, and it may be proper to state it in this connection, that near the base of the slope, in front and nearly opposite the west end of the building, was once a spring or well from which water was obtained. A pipe which carried off the overflow passed beneath the road and opened into the area at the southwest corner. The spring is said to have gradually become dry. The vein probably found a lower level and passed off either to the west of the building or under its foundation.

Beneath the brick paving in the area skirting the west side of the west wing is a square brick drain (probably not cemented), by its south end opening just under the point where the overflow-pipe from the well or spring is said to have entered the area, and by its north end into the catch-basin situated at the steps leading up from the northern extremity of the area. This drain is about 6 inches square. It will be necessary to revert to it again. The conditions found to exist in the basement of these quarters are certainly not to be considered satisfactory from a sanitary standpoint. The soil beneath the floors is damp and wet, and the walls are damp, and even wet to some distance above the floors.

It is important that something should be done to secure a drier and more healthful condition of the basement rooms in this building. Of course, it is now impracticable to place a waterproof course in the walls at the ground level; but a good deal may be done to tile-drain the foundation where it rests in sand or gravel; or in those parts of the foundation resting on rock the water may be turned off by an impervious outside wall set well down on the rock, with a loose rubble or gravel course on its upper side to conduct the water off along the intercepting wall. The earth should be removed for a depth of 7 inches below the floor level of all rooms and halls and a

coat of 6 inches of concrete laid down, which should be covered with a layer of asphaltum extending a half inch or an inch into the wall between two courses of brick; over this, and forming the floors of the apartments, a layer of cement should be laid smooth and level. The inner surfaces of basement walls for several feet above floor levels should have a coating of coal-tar pitch continuous with the asphalt or coal-tar layer of the floor.

Surface drainage.—The entire building is surrounded by an area, except on the north side of the west wing, where the earth comes in contact with the wall, and on the north and east side of east wing, where the general ground level falls to that of the floor of the area ways. The outer or retaining wall of area is of stone, and is substantially built. Separating the hill in front of the building from the area is a wagon road which is just level with the top of retaining wall of area. The road, of course, is compact and solid and constitutes an efficient watershed; but there is nothing to prevent the water from flowing over the top of the area wall, and I am told that occasionally some of the surface water from the road is thus discharged into the area. A proper surface drain on suitable grades ought to be constructed on the upper side of the road, to lead the surface water off around one or both ends of the building.

The area is paved with bricks, which seem to have been set in sand only; certainly they have never been coated with cement or other impervious material. From the center of the barrack, in front, the area floor has a moderate fall toward each end of the building. From the east of the center the water flows out upon the declivity between the band and army service barracks; from the west of the center the water finds an exit at a catch-basin at the north end of the area.

The back area has three exits for surface water, one at its center, another at its northwest end (a catch-basin); the other is the open end of the area behind the east wing.

The porous brick pavement of the area, as a surface drain, is possibly worse than would be the soil itself, which, in time, would become so packed as to shed water fairly well. There can be no doubt that much of the water flowing into the area finds its way into the soil beneath this brick pavement.

Roof drainage.—The roof water is brought down by conductors, which discharge upon the pavement within a few inches of the ground. From the foregoing it is seen that a large quantity of surface water (from ground and roof) enters the area; which is by no means in a condition to carry the water off quickly or prevent it from sinking down about the foundations. There should be substituted for the brick paving a concrete or cobblestone pavement, well coated with coal-tar pitch, and the outside of the walls of the building should be made impervious to water for a short distance above the area floor.

House drainage or sewerage.—The plumbing appliances in this building consist of 11 kitchen sinks, 3 stationery iron wash basins, 1 tin-lined bath tub, and 2 stone laundry tubs (in one set). The short waste pipes from the laundry tubs, situated in the east end of the main building, open into a 1½-inch lead pipe, which is trapped, but not vented. This pipe joins the waste from the sink (in the same room). The 1½-inch lead waste pipe from the sink is trapped above its junction with the laundry tub waste, but is not vented. The common waste pipe, thus formed, passes out through the east wall.

The bath tub and hand basins are located in the east wing. The 1½-inch lead waste pipe common to the three basins is trapped, but not vented, and joins the waste from the bath tub, which may or may not be trapped beneath the floor. The waste pipe common to these fixtures runs out beneath the floor and through the east wall. In the main building there are eight sinks (one already noted in connection with the laundry tubs). The waste pipes from five of these discharge into a 2½-inch iron pipe laid under the floor along the back wall, with a slight fall from the east and west ends of the building to the center, where they merge into a common pipe, which runs back under the area pavement. This 2½-inch iron pipe and the waste pipes from the sinks are in bad condition. In some places they have been broken in order to free them of the greasy, filthy matter which had impeded or obstructed the flow of water. Through such a hole in one of the waste pipes it was possible to examine its interior, which was found almost clogged with filthy matter. The opening through which the examination was made had been imperfectly closed with a tin cap and plaster of Paris. The water was escaping, and of course is gradually fouling the soil. The two remaining sinks in the main building are located in its west end The waste pipes from these, passing to the floor and out through the wall, open into large iron pipes which empty directly into the square brick drain (already described), which was once the conduit of the overflow water from the well. In the west wing there are three sinks, two of which are located in the rooms opening out upon the west area, and their waste pipes discharge into a common clay pipe on the outside of the building. This clay pipe opens into the catch-basin at the terminus of the square brick drain. The last of these sinks is located in the northeast corner of the west wing and discharges into the catch-basin

already mentioned as the exit for the surface water falling into the western half of the area. All waste pipes from all these sinks are trapped, but not vented. They are of lead and from 1¼ to 1½ inches in diameter.

It must be clear that such an arrangement as has been described is exceedingly objectionable and can not but in time endanger the health of the occupants of these quarters. The square brick drain is already fouled beyond endurance and has been closed at both ends to prevent the escape of offensive gases. It must not be forgotten that these basement rooms and area ways are constantly used by the families living in these barracks, and the area is used more or less as a playground for the children.

Before leaving this subject it is deemed proper to say something about the flooring in the basement rooms. This, a good quality of pine flooring, was put down about five years ago, whether upon new joists or not can not be stated; but both the flooring and joists are now rotting badly in some of the rooms, and adding another and serious source of contamination to the atmosphere of these rooms. The great difficulty in dealing with the house drainage in these quarters is the low level of the basement, in which of necessity the principal plumbing appliances must be placed. There are not proper grades for any of the floor or surface pipes, and without, perhaps, some efficient means of regularly and forcibly flushing, it can not be expected that they will long remain open.

It need not be added that little can be done with the plumbing now in these quarters to improve it or make it safe. The whole thing should be torn out so soon as a new and more rational system can be introduced. This should be done along with the improvements of the subsoil and surface drainage, etc.

RECAPITULATION OF RECOMMENDATIONS.

(1) *Subsoil drainage* of sites of band and engineer barracks, by tile drain where practicable or by impervious intercepting walls with rubble backing where the foundation rests on shelving rock tending to conduct water under the buildings.

The removal of all present floors and putting down concrete, asphalt, and cement floors in all basement rooms, and coating the inner surfaces of walls with some impervious material for several feet above the floor level.

(2) *Surface drainage.*—Deepening of area way on south side of engineer barracks and east, north, and south sides of cavalry barracks; paving with cobblestone, coated with coal-tar pitch, all area ways about all barracks, and the entire surface between south side of the Army service barracks and chapel; the construction of a suitable surface drain on upper side of road in front of band barracks.

(3) *Sewerage.*—The removal of the scattered and disjointed plumbing in all the barracks and providing an approved system of house drainage, to embrace ample bathing facilities. In the band barracks there should be a separate bathroom for the use of the women and children.

It is advised, of course, to retain the isolated privies; but these should be thoroughly repaired and provided with new and improved appliances.

It is well understood that the improvements suggested in this report can not be done by the quartermaster's department at the post without a special appropriation of funds. They have not been urged for this reason and are now recommended and urged in the hope that some provision may be made for the work at an early date.

The Superintendent of the Military Academy referred this communication to the post quartermaster, directing him at once to prepare an estimate for the improvements suggested in the report, which estimate would be included with others to be submitted for the fiscal year ending June 30, 1893. He concurred fully in the recommendations of Assistant Surgeon Carter and commended him for the zeal, intelligence, and efficiency he had shown in his investigations.

FORT SNELLING, MINN.—*Maj. C. K. Winne:* The water-closets in the upper post were put in some years ago and the old form of pan closet was adopted, which is known to be the worst form of closet that can be used. Many of them leak and all are offensive, as it is impossible to cleanse them thoroughly; they have become a constant menace to the health of the garrison, situated as they are in the quarters and communicating directly with bedchambers. New closets of a modern pattern should be put in at once, and I would suggest that a board composed of the medical officers and the post quartermaster be appointed to investigate and report upon the subject.

FORT TOWNSEND, WASH.—*Capt. R. R. Ball:* The present pattern of water-closet (the old Hopper) in the men's closets and at the hospital has nothing to recommend

it, and the post surgeon urges that efforts be made to have it replaced by the automatic flush tank with one long, iron, common trough beneath the seats.

FORT LOGAN, COLO.—*Maj. R. M. O'Reilly:* The drainage of the post empties into a sewer which debouches on an adjoining ranch, the proprietor of which is very glad at present to have the sewage for irrigation and fertilization. The ranch has, however, been surveyed and is now or soon will be divided into building lots and placed on the market. It is hardly probable that it will be extensively built upon for several years yet. But the ranch slopes towards the South Platte River, whence a portion of the water supply of Denver is drawn. The premises are, I believe, within the county of Arapahoe, which also comprises the city of Denver. In case the municipal authorities consider the drainage of the post a source of pollution of the river, legal complications may arise. There is an abundance of time to provide against trouble of this nature, and I therefore suggest that a plan for the disposal of the post sewage be carefully matured and be held in readiness to be put in operation if necessary.

WATER SUPPLIES.

Much of the improvement in the health of our troops, particularly as regards the lessened prevalence of diarrheal affections and malarial fevers of the remittent type that has been shown annually in the reports from this office, has been the direct result of the attention given by our medical officers to the water supplies of their posts. Twenty years ago a supply of wholesome water on tap in the kitchens and lavatories of the garrison of a military station was a luxury found only at certain permanent posts in the vicinity of cities. The greater part of our Army "out West" had to be satisfied with water barrels outside the kitchen door or in a shady angle of the building. These were filled morning and evening with water, generally turbid, wagoned with much labor from the river. To procure a special supply for delicate palates a wagon would be dispatched to some spring, rudely dammed to develop its usefulness; and the height of luxury in the Southwest was to have the drinking water stored in two or three large *ollas* suspended in some part of the barrack building where there was shade with a possible air movement to cool the water by its more rapid evaporation. Other insanitary conditions were concomitant with this primitive method of water supply. The troops were in fact exposed to all the deprivations of field service with the added danger of a permanent encampment with its consequent contamination of the soil. Gradually, however, improvements were made at posts which were not regarded as merely temporary stations. Wells were dug, and if an adequate supply of wholesome water was obtained measures were taken for its distribution and for the disposal of waste water. This opened up the question of sewerage; and the sick list of the post became lessened in proportion to its sanitary development. Springs were opened up and creeks dammed up into reservoirs of supply. When no better source was to be obtained, sedimenting and storage reservoirs were built and the water pumped from the river, at first perhaps by mule power but speedily by steam. Now there are few posts that are dependent on the water barrel. The condition of the water supplies of our Army may be appreciated in a general way by a few brief comments on the reports concerning this subject that have been filed during the past year.

The supply at several posts has been inadequate; a few, indeed, have been threatened with a water famine. At Fort Niobrara, Nebr., the supply is said to be good, but deficient on account of the insufficiency of the water main. In May last the administration building of the post was burned, although with a proper water supply it could have been saved. The deficiency at Fort Grant, Ariz., where, in July, the use of water had to be limited, was due to the inadequate capacity of the reser-

voir and the defective character of its inflow pipe. At Fort Huachuca, Ariz., where the scarcity of water by the drying up of streams in summer suggested the necessity of abandoning the post, relief was obtained in June last by underdraining the *cienega* at the source of the supply with agricultural drain tiles. At Fort Robinson, Nebr., the difficulty lay not at the source but in the means of collection. The water from excellent springs was led into a reservoir sunk near to, and 14 feet below the level of, a small brook. When the necessities of the post lowered the water in the reservoir below the level of the brook the undesirable water of the latter entered and was pumped up for distribution. This was remedied in May last by an additional inflow from the springs.

Some posts, such as Fort Barrancas, Fla., Jackson Barracks, La., Fort Monroe, Va., and Fort Warren, Mass., collect the rainfall for household use; and others supplement their well and other water supplies by cisterns connected with certain of their buildings. Rain water, as stated in my report last year, is always a good water if proper precautions are taken for its collection and storage. Rain water shed from a house roof carries with it into the cistern the soot and condensed ammoniacal vapors of coal combustion, the infinity of débris, organic and inorganic, which constitutes the dust of a city or other community, together with more massive fragments, as of dead insects, decaying leaves, etc. After a few days these various matters settle, forming a soft, black, pultaceous sediment, and leaving the supernatant water comparatively clear and pure; but every succeeding rainfall not only increases the quantity of this sediment, but by its inflow stirs up that which had already accumulated, rendering the water impure until sedimentation is again accomplished. As time passes the sediment increases, and the water becomes unfit for use after each rainfall. These conditions are aggravated in the dry season, when the water is low in the cistern and the quantity of sediment relatively much increased. At such times the water may become foul to the sight, taste, and smell. Remittent fevers have been developed by the use of such water, although diarrheal troubles are its most common offspring. At Fort Bidwell, Cal., some cases of fever were attributed to the presence of slimy mud in its reservoir of surface water. After long seasons of dry and dusty weather, which leave the shedding surfaces coated and the conductors clogged with decaying vegetable matters, the first of the succeeding rainfall should be run to waste in order to clean out the system. This is best effected by personal attention, such as is given by the householders of New Orleans to their domestic water supplies; but some form of cut-off should be used at all military posts where the water is not freed from its suspended matters by overflow from a collecting into a distributing cistern. The simplest form of mechanism to effect the rejection of the roof washings consists of a joint in the conductor which, when in place, leads the water into the cistern, but when turned runs it to waste. Another consists of an overflow pipe running down along the outside of the cistern and guarded at its lower end by a valve which can be opened or shut at pleasure. The conductor from the roof opens into this pipe a few inches below its upper end or point of emergence from the cistern. When the valve below is open, water from the roof runs to waste through the pipe; when it is closed the water is carried over into the cistern, while accidental solids are trapped in the pipe.

The cisterns at Fort Barrancas, Fla., are insufficient, the whole of the watershed not being utilized. Artesian wells have been a success at Pensacola, Fla., and would probably prove so at this post. With

proper care in collection and storage, as above stated, Jackson Barracks, La., may be supplied in part from its cisterns, aided by distillation for kitchen and potable uses. The river water at this post is unfit for any purpose except for flushing drains or subduing fire. The cisterns at Fort Monroe, Va., contain water usually wholesome but occasionally tainted with decaying vegetable matter. Its imported well water is said to be hard and even brackish. At Camp Oklahoma, Okla., water from a spring is recommended by the medical director, as the present source, a cistern belonging to the railway company, is considered open to contamination from a privy erected for the use of the railway employés.

The cistern water at Fort Warren, Mass., is an important factor in the supply of the post, although insufficient even with the post wells for the present small garrison. The provision for war service has not yet been obtained. As usual with such waters, this supply often becomes bad through want of care, particularly in seasons when the water level in the cisterns is low. The cistern water service here is aggravated by the use of lead service pipes, and colic, constipation, with other symptoms of chronic lead poisoning, are not wanting. The well, from which the largest supply is obtained, is within a few feet of the drain which carries off the soil water from that part of the garrison, and as it is merely faced with brick every rainfall soaks into it laden with the filth from the soil. Moreover, the wells are not productive. In the last annual report from this office it was stated that the water supply of the post gave out in July, and it became needful to purchase water in Boston, transport it in boats to the island, and transfer it to the various cisterns by means of the post fire engine. Last year, in August, the wells again went dry, and this with only the skeleton garrison of times of peace. For years past the defective water supply of this important post has been brought to notice by every medical officer stationed there, but with no other result than the expenditure of several thousand dollars in the endeavor to strike a deep supply. It is very well from the military point of view to make this post self-reliant as to its supply of water, and to this is to be attributed the efforts made to reach a deep-seated water-bearing stratum; but in the meantime the health of the present generation has to be considered, and the plan recommended of bringing water from Long Island for temporary purposes and peaceful occupation meets with the cordial support of this office.

From posts supplied with river water the reports at certain seasons complain of the muddy condition of the water, and as diarrhea generally prevails at such times without any other apparent cause, the condition of the water is generally, and no doubt correctly, held responsible. During the past year this was the case at Fort Missoula, Mont., and Fort Du Chesne, Utah. At Fort Randall, S. Dak., the post surgeon invited attention to the muddiness of the water supply and submitted plans for its purification, but on account of the probable abandonment of the post these were not approved. The alkalinity and other impurities of the Little Big Horn at Fort Custer, Mont., have occasioned intestinal disorders among the men at the post, although none are this year reported specially. The river supply at Fort Apache, Ariz., from the South Fork of the White River, is considered to be of doubtful quality on account of an inflow of irrigation water above the intake. The question of a water supply at Fort Reno, Okla., has been agitated for several years. The quarters of the men are supplied from the North Fork of the Canadian River, which is generally turbid and, according to one medical officer, "simply detestable." The supply for officers is

wagoned from Caddo Springs, distant a little over 5 miles from the post. The number of cases of sickness among the men at one period led Capt. J. Van R. Hoff, then post surgeon, to urge the introduction of the spring water for general use. Nevertheless, an allotment was made to sink an artesian well to the watershed which has its outlet at the springs. The well was bored to a depth of 400 feet when an accident put a stop to further work at that point. The medical officer now on duty urges the piping of the water from the springs as being feasible and not expensive, and the construction of cisterns to utilize the rainfall, in both of which recommendations he is sustained by the medical director; but the contractors meanwhile have commenced drilling at another point.

At Fort Stanton, N. Mex., and San Carlos, Ariz., the supplies are from shallow wells, and are impure. At the former the well is so near the Bonito River that it becomes filled by direct inflow of the turbid water in the seasons of overflow; moreover, it is insufficient. A new well has been sunk to a depth of 59 feet without obtaining water. At the latter the wells near the junction of the San Carlos and Gila rivers furnish a water that is alkaline, brackish from excess of chlorides, and organically impure. At Fort Canby, Wash., the supply consists of cistern water and surface water collected in tanks. As the latter is not good, it is proposed to introduce a spring supply. The prevalence of fever at Fort Myer, Va., the extent of soil contamination at the post, and the proximity of the national cemetery at Arlington led the post surgeon to doubt the purity of the well water. Samples analyzed at this office proved to be of good quality chemically; but as the wells are shallow and thus liable to vary in quality at different times, and, moreover, as the supply is inadequate, it is recommended that the post be connected with the city water supply of Washington, D. C. Chemical analysis of the spring water at Mount Vernon Barracks, Ala., failed to show any unwholesome quality, but on account of local considerations a board was convened at the post to consider the question of an improved supply. The recommendation of the board to sink a large well was approved by the department commander.

An analysis of the water supply at Fort Sheridan, Ill., showed that the water is not as pure as it should be, and that the cause is probably the proximity of the intake to the shore, but as there was no evidence of contamination by sewage, it was recommended that the water be examined from time to time until it is definitely settled that the fault lies in the shortness of the inflow pipe, when it can be easily remedied.

At Fort Schuyler, N. Y., the garrison was supplied by pipes from the mains of the New York and Westchester Water Company; but although the connection of a post with the water mains of a neighboring city usually solves the question of a water supply as regards both quantity and quality, it does not always do so. As regards quantity, the only complaint came from Jefferson Barracks, Mo., where the demands of the city of St. Louis at certain periods leave no pressure for the supply of the garrison. This has been remedied in part by establishing a temporary pumping station at the junction of the depot and city mains. As regards quality, complaint is more frequent. From Boise Barracks, Idaho, where a water service from the city was obtained early in the year, there came in October the statement that the water at times was so bad in odor as to be unfit for use. This, however, was due merely to the newness of the service pipes in parts of the garrison, not to an inherent bad quality of the water. At Davids Island, N. Y., the water itself appears to have been in fault; it is fur-

nished by the water company of New Rochelle, N. Y. At Columbus Barracks, Ohio, the water is so hard as to be unsuitable for cooking or cleansing. Fort Brady, Mich., is supplied by water wagons from a hydrant of the Sault de Ste. Marie Water Company. Assuming the water to be good as delivered by the company, it does not follow that it is so at the time of its use on account of the exposures incidental to the water-barrel system of distribution; but this assumption can not be made, for the water is occasionally bad, and doubt has been thrown on its quality at all times. At one period it became turbid and tasted badly as it came from the hydrant, when on investigation it was found that a break in the inflow pipe near a shallow bay through which it runs was the cause of the impurity. It was discovered also that the intake was from the canal in which ships are liable to be tied up, and that over three hundred cases of typhoid fever had occurred in the town during the previous year shortly after an accident to the lock had occasioned the canal to be crowded with waiting vessels. A danger of this kind should not be incurred when it can be avoided by taking the water from the river instead of from the canal. At Eagle Pass, Tex., the town supply is so hard that it has at times been regarded as the cause of epidemics of dysenteric diarrhea. It is derived from wells sunk in the river bank and pumped into tanks. The post supply is obtained from this by means of the water-wagon main and the water-barrel service. The barrels having been found at times alive with embryonic mosquitoes, a pipe service is earnestly desired, notwithstanding the hardness of the water and its dysenteric possibilities.

Fort Leavenworth, Kans., is supplied by the Leavenworth waterworks with water from the Missouri River, the intake being below the inflow of the sewage of the post. This position of the inflow is, however, of small account, as the water is so foul that chemical analysis shows no difference in quality above or below this point. This water should certainly not be used if a better supply can be procured. The charges of the water company are so high that it might be a matter of economy per gallon of water, irrespective of quality, to make an effort to reach a deep-seated supply. A recommendation was made by the post surgeon in August to have the service pipes of Fort Logan, Colo., connected with the mains of some of the water companies of the city of Denver, on the ground that the post supply from artesian wells is liable to be cut off temporarily by accidents to the machinery. In October the propriety of the recommendation was thoroughly substantiated by the occurrence of just such an accident, the choking of the wells. For two weeks water for cooking and drinking had to be wagoned from a city hydrant; and the water-closets, house drains, and sewers became exceedingly offensive for want of flushing. Steps were thereupon taken to connect with the mains of the Citizens' Water Company.

In the report from this office for the fiscal year ending June 30, 1890, which summarizes the statistics of sickness at our military posts during the calendar year 1889, the remark was made (page 37) that if Fort Brown, Tex., were expunged from the list of our military stations the prevalence of malarial disease in our Army would be greatly reduced. Fort Brown has not been abandoned, but its malarial record has been expunged, with a consequent material lessening of the malarial rate of the Army. During the calendar year 1889 the post had an admission rate for malarial diseases of 1,676 and a noneffective rate of 38.58 per thousand of strength. During the year 1891 the corresponding rates were 16.13 and .35. This change which practically alters the status of Fort Brown from that of the most unhealthy to one of the most healthy

garrisons in the Army has been accomplished solely by the use of a pure water for drinking and cooking, an accidental consequence of the introduction and use of an ice machine. Formerly the water supply was pumped from the river into settling tanks and distributed for use. It is so pumped and distributed now for general purposes; but the water for cooking and drinking is obtained from a steam condensing coil connected with the ice machine. Distilled water was introduced in 1890 and the extraordinary change in the health of the garrison can be attributed to nothing else than to its use; for all the other sanitary conditions and surroundings of the post remain as they were during the years of insalubrity and high rates.

Fort Ringgold, Tex., gives corroborative testimony to the above. Here distilled water was introduced in 1886. The post surgeon considers that its use has reduced the sick rate one-half since that time, and that most of his admissions for malarial disease are among troops whose duties have taken them away temporarily from the post. As a matter of published record the admissions at this station have fallen from 2,304 per thousand of strength during the calendar year 1885 to such rates as 562 in 1889, 865 in 1890, and 1,366 during the past year.

FORT NIOBRARA, NEBR.—*Lieut. J. D. Poindexter:* The main pipe supplying the water is too small. At some quarters water even for culinary purposes can not be obtained at times. The quality is very good.

FORT GRANT, ARIZ.—*Capt. W. H. Arthur:* Water getting low on account of very small rainfall during July. Its use is carefully limited to prevent waste. Quality is good, but not as excellent as when supply is abundant, as it has to collect slowly and stand in reservoir. * * * Supply of water gradually increasing and quality improving. While the water was scanty and of poor quality many light cases of acute diarrhœa were developed. These are becoming less frequent as the supply of water increases and the quality improves.

Lieut. E. L. Swift, May, 1892: The reservoir is of ridiculously small capacity in proportion to the size of this post and the length of the dry season. An iron pipe 3 inches in diameter runs from the dam toward the reservoir, connecting it at its lower end with a 5-inch pipe. Even this small 3-inch pipe is loose in many of the couplings, broken, eroded, or burst in places, and is at present disconnected from the reservoir. * * * This pipe begins at least 5,000 feet from where a permanent water supply could be assured. This post therefore presents the spectacle of having a permanent water supply near at hand from the benefits of which it is debarred by reason of a patched-up makeshift of a receiving pipe and its lack of a few thousand feet of additional length. The distribution of water at this post is insufficient for its needs in many places. I recommend the enlargement of the reservoir by blasting and excavation at its upper end, but most strongly urge the propriety of a larger receiving pipe (at least 5 inches) and the extension to such a point that permanent water the year round could be assured.

FORT HUACHUCA, ARIZ.—*Maj. T. E. Wilcox, September:* The water supply, while of good quality, has been of barely sufficient quantity to supply the daily needs of the post and we find ourselves at the close of the rainy season with fewer promises of its holding out than ever before in the history of the post. Streams which always heretofore have had running water at this season are absolutely dry, and as an increase can not now be expected until next July the outlook is anything but encouraging. An emergency appropriation should be made at once to determine if this supply can be increased by the method proposed in previous reports or some other practicable way, lest the abandonment of the post on account of deficient water supply may become a necessity.

December: The water supply has not been greatly increased by the advent of cold weather, as was hoped would be the case, and considerable annoyance has been suffered by the freezing of supply pipes, which are insufficiently protected against the degree of cold which has prevailed during the month. A minimum of eight and even seven degrees above zero has been recorded. It is considered desirable that the chief quartermaster of the department be made acquainted with the above statement for the reason that on his recent visit to the post he was given to understand that no danger was likely to occur to the water pipes through frost. As will be seen, the pipes require protection against the cold of winter as well as the heat of summer.

June, 1892: Has been scanty but of good quality; the deficiency promises to be corrected to some extent by efforts made during the month, which were in accordance

with recommendations made in the report for June, 1891. Agricultural drain tiles have been introduced in the *cienega* at the source of the water supply, and over 7,000 gallons per day obtained in excess of that heretofore secured; the expense has been nominal, and it is believed that a further increase will be found as the water finds its new thoroughfare. The *cienega* referred to in the last report has been drained and now offers a liberal supply of clear cold water with a temperature of 61° F., which is 18 degrees colder than that of the water from the hydrant at the hospital, and 14 colder than that at the ice machine. It is believed this supply will afford all needed for the saw mill, ice machine, stables, and water closets for the enlisted men. Pipe and a reservoir will be required to make this available, but this will not be attended with great expense.

FORT ROBINSON, NEBR.—*Maj. George W. Adair:* The usually good water supply has illustrated the transitory nature of earthly things by becoming turbid from pollution by surface water, and is chargeable with the undue number of cases of diarrhœa during the month. The causes of this change have been investigated, and merit extended consideration. The spring from which the water is pumped into the tanks for distribution is the lower one of four in the bottom of a gulch leading into White River below the post. The water is collected in a tank which is sunk to a depth of 14 feet below the level of a brook that flows by it. When left to itself the water rises in the tank to a level well above that of the brook, and the pressure is outward from the tank. When the requirements of the post demand rapid pumping the level of the water in the tank is speedily brought far below that of the brook and the pressure is inward—brook water passes into the tank. The extension of the sewerage system has increased the use of water in the post, and the capacity of the spring is no longer sufficient to meet the requirements. The engineer stated the matter clearly, saying to me "I can not keep the level in the tank without pumping creek water." * * * To secure an ample supply for the post the overflow from all the springs should be secured by connecting the inclosing tanks by iron pipes receiving the water at a level well above that of the brook, and the pumps should never be allowed to take water from below that level. It will be well to surround the tanks with cement or other impervious material to prevent the loss of spring water, for the time approaches when it will all be needed for the post; but to trust to the perfection of such devices for the exclusion of brook water is to trifle with public health. To secure a constant outward pressure by maintaining a superior level within the tank is the only method of safety. If rapid pumping at intervals be desired, a reservoir of suitable capacity and above the brook level should be provided to accumulate the overflow while the pump is idle.

May, 1892: The improvement in the water supply is well begun. An additional 250 barrels an hour from another spring already obviates the necessity of pumping below the brook level.

FORT BIDWELL, CAL.—*Capt. W. J. Wakeman:* A few cases of mild fever due to malarial poisoning have occurred during the month. They were caused, in my opinion, by the water. The reservoir contains a considerable amount of slimy mud, which collects in it during the spring freshets when the snow on the foot hills is melting.

FORT BARRANCAS, FLA.—*Capt. W. C. Gorgas:* I once more call attention to the great need of a water supply and urge that the water discovered in boring for a well during the last year be utilized. All the water from the barracks and the married men's quarters should be run into the cisterns; at present only half is collected. The cisterns of these two buildings frequently give out.

JACKSON BARRACKS, LA.—*Capt. W. C. Borden:* On looking up the causes of admission to sick report we find that for the two years ending June 30, 1891, the leading causes were malarial fevers, diarrhea, influenza, accidents, venereal disease, and alcoholism, and that, of a total of 363, nearly one-third of the entire number, 110, were for malarial and intestinal disease, while 57, or over one-sixth, were for alcoholic or venereal diseases. * * * For the malarial troubles we must look to local causes. * * * The water supply of this post is obtained from two sources, rain and the Mississippi River. The former is mainly used for drinking and cooking purposes, the latter for bathing and cleaning. The Mississippi River is never a clean stream, and at those seasons of the year when diarrheal diseases most prevail it is as nearly liquid mud as running water can be. * * * Some idea of the state of the water can be formed when I state that having let the water stand for four hours in a bath tub in my quarters 1¼ inches of mud were found at the bottom. If the deposited mud is allowed to remain for any length of time the odor from it becomes exceedingly offensive. * * * The construction of two large tanks to be used on alternate days, so giving the water in each twenty-four hours in which to settle, would almost entirely obviate this trouble. * * * But the water used for bathing and cleaning purposes, however objectionable it may be, can not be by any means as harmful as impure drinking water.

The water used for drinking and culinary purposes is rainwater drawn as required from large wooden storage tanks, which are attached to each set of barracks and

quarters, being supplied by them from the intermittent rainfall upon their roofs. * * * As the prevailing winds are from the river the clouds of dust raised by the passing of horses, vehicles, and droves of cattle are carried towards the barracks to be deposited in part upon the roofs of the houses. During the past summer periods of drought of nineteen, twenty-six, twenty-seven, twenty-one, fifteen, and thirty-seven days occurred. In May alone there are thirty dry days, there being but one-fourth inch of rainfall during the entire month. During these long periods of dry weather, the dust, composed of pulverized earth and animal excrements, together with soot from the chimneys, dead leaves, and insects, and the droppings of birds, steadily accumulates upon the roofs; then comes a rain and sweeps the accumulations into the cisterns. That water so contaminated can be pure or wholesome is impossible, particularly when decomposition is favored by the heat of the southern sun, acting upon the cisterns for long periods of time between the rains, when with the exception of the occasional withdrawal of the water it remains stagnant, and anyone who has seen the accumulated matter which is withdrawn when the cisterns are cleaned can come to but one conclusion in regard to water in which such matter has accumulated. The matter withdrawn is large in quantity, black, and most repulsive in odor. It consists of the precipitated matter swept into the water from the roofs, the organic portions of which are undergoing decomposition. * * * So badly is the water tainted in this way that it is sometimes plainly detected by the taste and smell, as well as by color. In the case of one cistern during the past summer the water was so obviously impure that the cistern had to be entirely emptied and thoroughly cleaned, and the water in the other cisterns differed from that in the one mentioned only in degree. * * * Its use for drinking and culinary purposes should be superseded by that of distilled water. * * * A service of four years in the south, stationed at points supplied with both natural and distilled water has firmly impressed me with the belief that we must look to a use of the latter for a lowering of the sick rates for malarial and intestinal diseases, and I am firmly of the opinion that the general use of distilled water would not only decidedly reduce the sick rate at this post, but at those others where a large number of the admissions to sick report are for these diseases. Therefore my recommendations are that two tanks, each of sufficient capacity to furnish this post with water for twenty-four hours, plus a sufficient space for sediment to accumulate, be erected, and that an oil eliminator and condenser be attached to the engine, that distilled water may be supplied for drinking and cooking purposes.

FORT MONROE, VA.—*Maj. R. S. Vickery:* The water supply of the post is of inferior quality. The rainwater is stored in good condition and at present is abundant for drinking and cooking purposes, for which the other water which is pumped from wells beyond Mill Creek can not be used. The latter is not only hard, but brackish and with a decided saline taste, not suitable even for bathing and washing purposes.

CAMP OKLAHOMA, OKLA.—*Col. B. J. D. Irwin, Medical Director:* The water for use of the command is procured from a cistern owned by the railroad company. A privy for use by the railroad employés has been recently erected, and it is feared that it will endanger the purity of the water through leakage. A spring only a short distance from the quarters could be used by piping the water to the garrison.

FORT WARREN, MASS.—*Capt. P. R. Egan:* The amount of water is insufficient and the quality not good. A search through the hospital records shows that every medical officer stationed at this post for years past has called attention to the unsatisfactory condition of the water supply. The only outcome of their efforts has been the expenditure two years ago of several thousand dollars in the sinking of a well and the erection of an engine and a water tank. This attempt to increase the supply has, however, been a complete failure. Our last condition is worse than our first, and is at present simply deplorable. The well from which most of the garrison obtains its drinking water went dry a few days since. None of the wells have been cleaned in the memory of any one at this post, and this particular well stands within a few feet of the drain which carries off the soil water from that part of the garrison. It is simply faced with brick and covered over with boards. The recent heavy rains and those to come will wash all the filth from the soil into it. The supply for the newly erected officers' quarters is by rainwater from the roof stored in cisterns. So far as I can learn these cisterns have never been cleaned. The roofs, too, are black and tarry looking, and covered with autumn leaves which get mixed up with the rainfall. This water is distributed into the houses in lead pipes, leaving those who occupy these houses at the mercy of their servants to do all their cooking with lead water.

No one will be surprised to hear that in the presence of such a water supply there has hardly been an officer's quarters in which there have not, during the past month, been several attacks of intestinal disorder and abdominal pain, or attacks of nausea and severe abdominal pain accompanied by intestinal disturbance. In some instances these troubles have become so continuous as to render the affection chronic. A similar condition prevails among the men and their families, and equally bad re-

ports come from the citizens employed by the engineers. As all do not drink water from the same source it is evident that all the water on the island is of a similar character. In fact it is is only necessary to drink a few glasses of it to suffer as above described. It would not surprise me if, after the low level of the water in the wells, the heavy rains brought abdominal troubles of a serious nature. The remedy for all this has been pointed out repeatedly. Obtain water from the city supply on Long Island. Another costly failure like that of two years ago would pay for the pipes and labor necessary to give us a good and permanent water supply. In my opinion the water on this island is not capable of being improved, and a supply must finally be obtained from other sources. The failure to obtain it two years ago would seem to fully justify me in this belief.

Col. R. P. Hughes, Inspector-General: The project submitted two years ago for bringing water to this post from the Old Woman's Home on Long Island is probably the most feasible plan and is entirely practicable. * * * The pipe conducting the Boston supply to the Old Woman's Home I think is only four inches. The pressure is represented to be but twenty pounds at that place. Under this condition of things it would be necessary to erect a distributing tank at Fort Warren, for, during the day, when Boston is drawing heavily on the supply, Fort Warren would probably get very little water. In other words, the condition at Warren would be permanently about such as we have at Governor's Island during the heated term of summer. With a large storage and distributing tank, that will fill during the night, there should be little or no trouble. But to return to the inchoate project. If it is a possible thing, fortified places and more especially islands should be prepared to meet emergencies, and dependence upon a water supply carried through a small pipe for two miles and across the main water channel is not in accordance with this requirement. A reasonable supply of good fresh water has been obtained about Boston by sinking a well; other instances have secured a liberal supply of water that was slightly brackish.

FORT MISSOULA, MONT.—*Lieut. Chas. E. Woodruff:* The high water has occasionally rendered the river water full of sediment of vegetable and mineral origin, and in the absence of any apparent cause for the large number of cases of diarrhea during this time it is probable that the water was at fault. The sediment can only be removed by the construction of a settling reservoir which is impracticable for the great cost. Otherwise the water is apparently excellent.

FORT DU CHESNE, UTAH.—*Capt. S. Q. Robinson:* The water supply as distributed is sufficient, but, owing to the rise in the river increasing the organic and mineral matter, is not of as good quality as at last report. Still there has been no illness clearly attributable to this cause. I am informed, however, that last year at the Government sawmill diarrhea of a mild type was quite common until high water subsided. During a recent visit there I recommended to the officer in charge purification of the drinking water by permanganate of potash with subsequent filtration, a method requiring but little labor or attention, demanding only the simplest contrivance, and which under almost exactly similar circumstances I have found effective.

FORT CUSTER, MONT.—*Maj. J. C. G. Happersett:* Water supply from Little Big Horn River pumped into a large tank and distributed by pipes. Water alkaline and varying in degree as the river is high or low.

FORT APACHE, ARIZ.—*Lieut. Philip G. Wales:* The amount distributed I consider insufficient, there not being enough taps in the southern portion of the post to give the inhabitants thereof an excuse for uncleanliness and not enough water to do the irrigating, which latter tends to improve both the appearance and health of the post. As to quality, the water is bad; the source of supply being either contaminated or liable to be so, and the mode of obtaining it from the river (an open ditch perhaps 800 or 900 yards long) decidedly objectionable. A surface drain from the engineer's quarters leads directly into the ditch, and his privy being situated at a much higher level than the canal can reasonably be supposed to contribute its quota to the aqueous constituents. A single case of typhoid fever in these quarters or in camp upon the flat through which the canal runs would be liable to cause an epidemic of this disease. Cattle have free access to the ditch for its whole length and can freely discharge urine and dung into it. Every few days the water used in irrigating a field a short distance above the post is turned into the river with the result of furnishing to our water a considerable quantity (and I presume dissolved) of mineral and vegetable matter as well as any filth which may have been thrown upon the land. The current of the river is so swift that any objectionable materials are rapidly carried down before the oxidizing action of the atmosphere can have time to render them innocuous, consequently it is highly important to remove any probable source of contamination either below the point from which the water is drawn or a great distance above it. An impure water is acknowledged by authorities to be the direct or indirect cause of diarrhea, dysentery, malarial fever, typhoid fever, cholera, and other diseases which, however, would not be expected to occur at this post, and it

can contain the eggs or embryos of some form of intestinal worms; it is desirable therefore to pay particular attention to it.

August: In this connection I would state that 28 cases of diarrhea have occurred during the past month amongst the enlisted men of the garrison, and 3 amongst the camp followers, due, in my opinion, to the impure water.

FORT RENO, OKLA.—*Capt. John L. Phillips:* The character of this supply would be greatly improved by a suitable number of cisterns for storing rain water.

Col. B. J. D. Irwin, Medical Director: An artesian well is being constructed at the post with a view to reach the watershed that has its outflow at Caddo Springs; the construction of cisterns before determining the practicability of securing water by that means would be premature at this time.

Capt. Phillips: I understand that the artesian well, so called, which is still only a well in name, was commenced about a year ago, and though there is an appropriation available for extending it several hundred feet deeper, as a source of water supply it is a very uncertain quantity. At present there are three sources of water supply here, and in enumerating I will not consider the three or four cisterns, which, as sources of general supply, are not to be considered. 1st. The river water from the North Canadian, which so far has been abundant, but is objectionable on account of its hardness and the quantity of sand and mud suspended in it. It is useless as potable water, and under ordinary circumstances would be useless for any domestic purposes. 2. The well water from the well on the southwest side of the main parade is another source of supply which was condemned as potable water by chemical analysis several years ago, and under any circumstances would be suspicious on account of the shallowness of the well. 3. The water from Caddo Springs, which is, I believe, considered very good, but on account of the distance of the springs from the post, five and a fraction miles, the procuring of it in but small and insufficient quantities, with the means at command, is impossible, inasmuch as it has to be hauled in small kegs every day by wagon; the only possible suggestion I have to offer in solution of the water problem at this post is one that has been made before, and I believe objected to on account of the expense of the undertaking—that is, to build tanks or reservoirs at Caddo Springs and conduct the water from them to the post by means of a main or mains.

Col. Irwin: As pure water is an essential requisite for a permanent military station Fort Reno should secure a supply at as early a date as possible. The water hauled by wagon from Caddo Springs, 5 miles distant, and on the offside of the turbulent North Fork, Canadian River, which becomes impassible by sudden rise in its volume, should be conveyed to the post by a proper system of piping. An effort to reach potable water by boring has been defeated by the breaking of the boring machine after going down some 400 feet. The contractors have commenced drilling at another point. In view of the heavy rainfall (30.29 inches) within the summer cisterns should be constructed as an auxiliary in supplying water to the post.

FORT STANTON, N. MEX.—*Capt. J. M. Banister, July:* The quality of the water has been poor of late in consequence of surface drainage into the well from which the water supply is obtained. The mouth of the well is on a level with the surface of the ground, and during the heavy rains and freshets which habitually occur during the summer months much organic matter is washed into the well, thus contaminating the water supply. Recently the well was nearly filled with foul water and mud in consequence of a sudden rise of the Bonito. As a consequence bowel troubles have been very prevalent during the past month.

August: During the summer months here the water becomes insufficient in amount and of poor quality. As a result of contamination of the post well by surface drainage and by its being flooded at times during the periodical overflows of the Bonito, and thus filled with foul mud and water, diarrheal disorders have been very prevalent of late. A new well farther from the stream is needed.

Lieut. N. S. Jarvis, December: Work upon the new well has been discontinued for the present, the contract estimate of 45 feet in depth having been reached with but little depth of water.

Capt. J. M. Banister, March, 1892: The new well has been dug to a depth of 59 feet, but a sufficiently large stream has not been encountered. This well should be dug at least 25 feet deeper. I think that a bold stream will be encountered within this distance. The water obtained from the old well evidently comes from the Bonito and not from an independent underground stream.

SAN CARLOS, ARIZ.—*Lieut. Philip G. Wales:* The water for drinking and other purposes is derived from a well 15 feet deep, dug within 300 yards of the San Carlos River near its junction with the Gila, and is ample in quantity. Its quality has not been determined, as no chemical analysis has been made to my knowledge. It possesses a brackish alkaline taste, and contains considerable chlorides (probably due to passage through salt-bearing strata), also organic matter in excess.

There was a large increase in diarrheal diseases over the year preceding. Whether this was entirely the result of the impure condition of the water, or whether

other causes were not instrumental in its production, I am not prepared to say. The water, as a rule, found in the Gila Valley is far from satisfactory, and I do not believe even an approximately pure article can be obtained except from artesian wells.

FORT CANBY, WASH.—*Col. C. C. Byrne:* Surface water collected in two tanks and one reservoir, also rain water collected in cisterns. Quality of surface water not good. * * * I am informed that steps are about to be taken by the post commander with a view to a better supply of water from a spring situated nearly two miles from the post.

FORT MYER, VA.—*Maj. R. H. White:* Analysis of the water supplied by the three wells was made at my request at the Surgeon-General's laboratory on October 9, 1889, with satisfactory results in each case. It must be remembered, however, that it is surface water, and liable to give different results at different times. The question may thus arise whether steps might not now be taken to connect Fort Myer with the distributing reservoir of the city of Washington, the relative altitudes of which are 220 feet and 160 feet, respectively.

In a recent special report Surgeon White remarks:

The supply is now so small as to render water too precious for adequate bathing and the use of it is shut off or practically prohibited for twelve hours of the day. * * * The water now supplied to Fort Myer is surface water, which is as variable in quality as in quantity; and is notoriously a prolific source of typhoid fever and other contagious diseases. That the soil through which this water percolates is now and will remain polluted is obvious from its having been the site of an old camp, from the vicinity of the ever more populous Arlington Cemetery, and from the large human and animal population now at Fort Myer.

MOUNT VERNON BARRACKS, ALA.—*Maj. C. E. Munn:* Regarding the water supply, the quality of which has been under discussion, permission was obtained to forward to the Surgeon-General's Office a sample from the reservoir for analysis. The officer to whom this duty was assigned reported the water as being of "very good quality," but, considering the condition of the reservoir, and the old and worn tubing and tanks, a water board was ordered, of which the post surgeon was a member. The board recommended the sinking of a large well, which plan was approved by the department commander, and the well is being sunk by the contractor.

FORT SHERIDAN, ILL.—*Maj. A. C. Girard:* An analysis of the water supply, made by Prof. J. H. Long, College of Pharmacy, Chicago, shows "that the supply is not as pure as it should be, and that the cause is the proximity to the shore of the orifice of the intake pipe." * * * Another possible source of disease is in the water tank in the water tower. The supply pipe originates 10 inches from its bottom, and below it all the sediment in the water is collected as a dark slime, which is no doubt permeated with disease germs. This slime can only be removed by being hoisted in buckets to the top of the tower and thrown out of the window, a laborious, filthy, and incomplete job. The remedy is an outlet at the bottom of the tank, connecting by a branch with the overflow pipe.

Col. Charles R. Greenleaf: Concerning the water supply, Capt. Miller, assistant quartermaster, stated that there was a drainage cap over the end of the supply pipe, and he thought that the character of the water had better be examined at frequent intervals until the authorities were definitely satisfied that the supply pipe was not long enough, when it would be an easy matter to add to it as much length as might be deemed necessary. In view of the facts, and the added one that the examination of the water by Dr. Mew failed to show any evidence of sewer contamination, this suggestion was adopted.

FORT SCHUYLER, N. Y.—*Maj. W. D. Wolverton:* Quality of water supply fair, quantity insufficient, a condition of affairs which, it is expected, will be shortly remedied by an abundant supply of good drinking water furnished in pipes already in the ground from Westchester County.

JEFFERSON BARRACKS, MO.—*Maj. D. G. Caldwell:* The water supply during a portion of the month has been insufficient, but was partially remedied by establishing a temporary pumping station at the junction of the depot and city main. This deficient water supply occurs every year during dry hot weather, and can probably only be prevented by laying a new main from the city reservoir to join the depot main at the city limits; the present city main has so many distributing pipes that the pressure is removed before it reaches the barrack main.

BOISE BARRACKS, IDAHO.—*Capt. H. P. Birmingham:* Complaint having been made that the water supplied by the water company of Boise City smelled badly at times and was unfit for use, I investigated the matter, and found that in those parts of the garrison supplied by terminal pipes, or where the water for any reason was allowed to stand in the pipes for a considerable length of time, the water became turbid and had a disagreeable odor, this condition disappearing if the water was allowed to run sufficiently long. I made a chemical analysis of the water and found, as far as an examination of that kind would enable me to determine, it to be a good potable water, the total hardness representing only 4.91 grains of carbonate of lime per

gallon, all of which comes under the head of removable hardness. The organic matter in grains per gallon is .049, and this is of undoubtedly vegetable origin. I believe that the stagnation of water in the pipes and the consequent bad odor are owing to the absence of a "blow off" arrangement for cleansing the pipes and mains, and recommend that the attention of the water company be called to the matter.

DAVIDS ISLAND, N. Y.—*Maj. J. R. Gibson:* Water supply abundant, but during the past two or three weeks of inferior quality, the taste and odor being very unpleasant. The water is supplied by the water company of New Rochelle. In its present condition it can not be considered good potable water.

COLUMBUS BARRACKS, OHIO.—*Capt. A. A. De Loffre:* The quality of the water supplied is not what it should be. It is very hard, which makes it difficult to use for cleaning purposes and objectionable for cooking. I believe it to be a pure water, however, and suitable for drinking.

FORT BRADY, MICH.—*Lieut. Paul Clendenin:* The water for the post is obtained from a hydrant of the Sault de Ste. Marie Water Company situated within 100 feet of the rear of the barracks and carried in barrels, in a wagon in summer and a sleigh in winter, to the various kitchen doors; here it is transferred by means of buckets to other barrels ready for use. Hence it will be seen that the water is handled twice before being placed in a receptacle convenient for immediate use, an expensive, laborious, uncleanly, and unwholesome arrangement. With all the care of frequent cleansing of the barrels and buckets it is well nigh impossible to keep them clean, and the frequency with which the kitchen barrels are filled with new and fresh water depends on the frequency with which they are emptied and cleaned before refilling These barrels are kept inside the kitchens in winter to prevent their freezing, and are here exposed to the more or less tainted atmosphere incident upon such a place, absorbing the odor and taste of cooking meats and vegetables as well as the emanations from the lungs and skin of the cooks; furthermore there is considerable water spilled in filling the barrels, and this increased by the leakage caused by the warping of the barrels in the warm rooms makes an untidy floor. In summer the barrels are kept out of doors, but here they invite the thirsty dog or other animal to dip in his dirty muzzle, for my observations at several "water wagon posts" lead me to say not that water barrels can not be kept covered, but that they will not. But it is not my purpose to enter upon any argument to prove the disadvantages of this system of water supply but rather to place upon record at this time the exact state of affairs. * * * An investigation led to the discovery of a break in the ingress pipe not far from the shore of the shallow bay through which it runs. I also learned that the water is taken from the ship canal and not from the rapids as I had understood. Last year there was a break in the lock and navigation was delayed for several days, during which the canal was full of waiting vessels. Following this there was a great deal of sickness in the town, 300 cases of typhoid fever being reported. While I am not able to trace a direct connection between the vessels tying up at the source of the city water supply and the sickness the coincidence is, to say the least, remarkable. As this accident may occur again at any time and because I do not think the canal a proper source from which to obtain the water, I respectfully submit that the Government should insist on the extension of the supply pipe of the city water system to the river before entering into a contract with the water company for supplying the new post with water. I feel positive that a suggestion on the part of the proper authorities would have the desired effect, as I understand that the extension referred to has been proposed in the city council and lost only on account of the money not being then available.

CAMP EAGLE PASS, TEX.—*Lieut. Ogden Rafferty:* The water is supplied from the neighboring town, where it is procured from wells that are sunk on the river bank and pumped into tanks in the town. The water is brought into camp each day by the water wagon and left in the barrels at our door. The water although hard is of good quality and seems to meet the demand in quantity.

May: The water has been of unusually hard quality through the month, owing to the height of Pecos River, which empties into the Rio Grande north of this place.

In the village of Eagle Pass several cases of dysenteric diarrhea have been attributed to this cause. The water barrels are a constant source of trouble. The covers are frequently knocked off at night and in the morning are found swarming with embryo mosquitoes. The proximity of the town to the camp solves the water question so easily that I would strongly urge that pipes from the city water works be brought immediately into the camp with such terminating facilities as to furnish a bath and a glass of clean water to all.

FORT LEAVENWORTH, KANS.—*Dr. Mew,* analytical chemist, reports on the post supply: It can not be condemned as polluted by sewage until it can be shown by comparison to be in excess of what may be found above the post and at a point free from possible excreta. The albuminoid ammonia is out of all proportion to the chlorine as evidence of contamination and suggests the probability that it is in part due to atmospheric nitrogen compounds and in part doubtless to the decomposition

of vegetable matter, a fact which, considered along with the very muddy condition of the water, ought to make it a very fertile cause of bowel disorders. Whatever be the source of the large amount of albuminoid ammonia and holding the question of possible sewage contamination *sub judice*, it is quite certain that such water is not fit for drinking purposes for man or beast.

Samples taken from the river above all possible contamination from the post were reported by Dr. Mew to have been duly analyzed with negative results, the post supply being quite as good organically as that collected above any possible source of contamination from the post; "but that it is unfit for human use in its present muddy state admits of no doubt."

Maj. John Brooke: The ordinary sewage matters are doubtless diluted, oxidized, or otherwise broken up to such an extent as to be inappreciable at the pumping station. With living disease germs it would be different. The excretions from a single case of cholera at the post would, through the water supply, be sufficient to infect the entire post, the military prison, and the town of Leavenworth. The samples for analysis were taken at a time when the river was about at a medium as regards muddiness. When at its lowest the water, as delivered at the post, is turbid. It is always offensive to the sight, and when heated, drawn from a hot-water boiler, the liberated gases make it offensive to the senses of taste and smell. For this water the Government formerly paid $6,000 per year. Last autumn a meter was put in the main and the cost consequently varies. For the last two months it was somewhat less than $500 each, but for the year it will no doubt reach the former sum of $6,000. A supply of better water could be had by pumping from the river above the post and subjecting it to thorough sedimentation; but the number of settling basins required for the purpose would probably make the cost excessive. There would appear to be no known reason why a sufficient supply of good water can not be had by means of wells. The perfect success in that direction attained at Fort Riley will certainly warrant the expenditure of sufficient money to test the matter here. The military prison is interested equally with the post, and I judge that all the ordinary unskilled labor needed to make the experiment could be had from that source. With that assistance the skilled labor and appliances necessary to determine whether or not sufficient water could be found would certainly not involve many thousands of dollars.

Maj. Charles Smart: The analysis submitted in this report presents the ordinary results yielded by the river water at its bad seasons. The amount of organic matter natural to the water is so great that the inflow of the sewage of Fort Leavenworth becomes swamped in the general impurity and can not be determined by chemical analysis. The danger is there, as Dr. Brooke says, but it exists above the post, and sedimenting would give no greater security than taking the water from below the post and sedimenting, as is now done. I believe there are sedimenting basins connected with the Leavenworth supply, although Dr. Brooke does not mention them. The question then becomes the general one of whether the river water is a proper source of supply. The answer is: not if a purer one can be obtained. Memphis had at one time a very impure supply from Wolf River, and plans and estimates were made to bring in the Mississippi water for the relief of the city, and this would have been done, but that the expense of overcoming the engineering difficulties was so great. Although Memphis is much lower on the river than Leavenworth and has consequently a larger quantity of sewage in the water of the river, the citizens were ready to welcome the water as an improvement on the water they were then using. From the sanitary point of view the best water admissible should be procured for Fort Leavenworth, but as financial considerations have necessarily a controlling influence in all such propositions these have to be taken into account. Since the water rental now paid is so high it might be well to consider the possibility of obtaining a local supply from deep wells as suggested in the report.

Col. B. J. D. Irwin, medical director: The water supply received through the city water company is taken from the Missouri River only a short distance below the outlet of the post drainage. It has been analyzed by the Government chemist at Washington and pronounced polluted and unfit for use by man or animals. At this large and important station a supply of pure water is essentially necessary to preserve the health of the station. It is believed that as at Fort Riley this could be secured at a moderate cost of labor by the inexpensive system of well-driving carried out so satisfactorily at that station.

FORT LOGAN, COLO.—*Maj. R. M. O'Reilly, August:* The entire water supply of the post for drinking and cooking purposes as well as for drainage is pumped from the artesian wells. At any time an accident may totally cut off this supply, and the consequences can be readily seen. The main of one of the Denver water companies is within a short distance of here, and as a measure of precaution I recommend that such connections be made as would in an emergency keep the post supplied.

October: On the 16th the water supply failed, one well having apparently caved in and the other being disabled owing to the breaking of a valve at a depth of 282 feet.

On the 21st I addressed another letter to the commanding officer asking his serious attention to the condition of the water supply and recommending that connection be had at once with the main of the water company, and stating that the matter was of vital importance and required immediate action. From the 16th to the present, water for culinary and drinking purposes has been furnished by a water wagon which procured the supply from a common hydrant in the adjacent village. But there has been none for flushing drains, save a limited quantity pumped with great difficulty from the choked well, and to-day it is reported that that source is exhausted. Under these circumstances the water-closets, bath-tubs, sinks, boilers, and water backs are useless. Cooking is badly done on account of the danger of accident to water backs and boilers from hot fires. If the sewers are not choked now they soon will be, and there are cases enough of typhoid fever at the post to make the place poisonous for the future.

Steps were taken to connect the supply system of the post with the Citizens Water Company of Denver.

FORT BROWN, TEX.—*Maj. Calvin De Witt:* The water supply is pumped by steam engine from the river into settling tanks and afterwards distributed in pipes; it is used for all purposes except drinking; distilled water from the ice machine is supplied to the entire garrison for this purpose. The post and its surroundings have not changed since the remarks in the report of the Surgeon-General of the Army, 1889, pages 27 and 28. Since then I am informed by the post surgeon, who has made careful examination of the records from the time he reported for duty, there has been a steady diminution in the percentage of sick to the command. At the date of inspection there was but one enlisted man in hospital for injury, none for disease. Since 1890 distilled water has been supplied for drinking purposes. Ice is and has been freely used by the enlisted men and in the hospital. To this the post surgeon attributes in a great degree this immunity from disease, stating that when the men come into barracks tired and hot from outside duty they find plenty of clean, clear, and cool water to refresh them, and the temptation to cross the fence to neighboring saloons, where cool beer and other alcoholic drinks are sold, is removed, and thus they escape many forms of disabling disease.

FORT RINGGOLD, TEXAS.—*Maj. Calvin De Witt:* The waterworks are very complete and give an abundant supply. The water is pumped from the river into a settling tank (80,000 gallons capacity); when clear, drawn into a tank of similar capacity, but lower in level; thence pumped by a second engine to four distributing tanks of 16,000 gallons each, and conveyed from them by pipes. This water is used for all purposes except drinking; drinking water, which has been given to all the garrison since the fall of 1886, is obtained by a steam condensing coil connected with the ice machine. * * * The post surgeon, Capt. J. E. Pilcher, is of the opinion (based on an examination of the records) that sickness at the post has been reduced at least one-half since the issue of distilled water for drinking purposes, and it has proved to be a most important sanitary measure. He also believes his opinion is confirmed by the fact that it is only after detached service away from the post that there is an increase of sickness, and especially those diseases caused by malaria. He also states that since he assumed charge he could trace all cases of malaria as originating away from the post and not to local causes. The value of distilled water for drinking purposes is evident, and I agree with Capt. George H. Torney, post surgeon at Fort Brown, in the opinion that if the enlisted men, after being heated by drill and fatigue or other duty, could find at their barracks a plentiful supply of this pure, clear, and clean water, made cool and refreshing with pure ice, it would have the great additional advantage of preventing much deleterious beer drinking.

At many other posts the decrease of malarial diseases has been ascribed to the use of a pure water supply. It becomes a question therefore whether it would not be advisable to issue ice-machines with an attached condenser to such posts as have a surface water supply of doubtful purity in order to provide them with pure water for drinking and cooking. I commend this suggestion for favorable consideration.

In connection with the foregoing subjects I desire to submit a recommendation. The construction and improvement of our military posts are matters of so much importance as to merit consideration by boards of officers before commencing work on the plans that may have been presented. Moreover, on account of the sanitary considerations connected with the selection of site, construction of post buildings, with their heating, lighting and ventilation, drainage, sewerage, and water supply, the medical department should be represented on these boards. The special training and experience of the military surgeon give weight

to his opinion on almost any question likely to be submitted to such boards in connection with the plans when viewed from the sanitary standpoint. It is better to build well from the first than to have to make alterations in a completed structure. These are always expensive and seldom satisfactory. The approval of a board before final action is taken would tend to eliminate mistakes and lessen the necessity for future changes. I therefore recommend that the plans of all buildings hereafter to be constructed, of alterations to be made, or of sanitary improvements to be instituted at our military posts be submitted to a board of officers, one member of which shall be a medical officer.

FOOD AND COOKING.

Few complaints of the quality of articles of food were reported during the year, and these related only to potatoes and fresh beef. The deterioration of the former was probably in part due to defective storage, while the inferior quality of the latter was the usual consequence of the absence of grazing at certain seasons in the vicinity of some posts in the Department of Arizona.

The preparation and serving of food were, however, the objects of important criticism. There is no doubt that general or post messes lessen waste and give greater variety of diet, other things being equal, than company messes, but the success of both depends on the ability of the cook. With detailed men as cooks the troops will fare better in a company mess than in the larger establishment, because it is easier to find in a company a man who can cook for a small number of men than to find in a garrison one who has the ability to supervise the kitchen of a general mess. When the depot at Davids Island, N. Y., had a competent civilian cook to superintend the work of its general mess there was no complaint as to the quality of the served food, but when the kitchen was left in the hands of untrained and inexperienced men such complaints became of frequent occurrence. The medical officer indeed suggests that unless skilled cooks be provided a return to the system of company messes would be advisable. The depot at Columbus Barracks, Ohio, also appears to have felt the need of competent management and skilled cooks. Another objection to details from the command for the work of a general mess at a large post is that a change of garrison would remove from the post all the men who had gained experience in the management of its mess. At all large posts having general messes there should be permanent assignments of competent men to the duties of stewardship and kitchen superintendence.

A diet table suggested by the post surgeon and modified by a conference with the mess officer is now in use at Fort Sheridan, Ill. It is given below to show the weekly bill of fare at a post where the administration of the general mess appears to have made it a success.

DAVIDS ISLAND, N. Y.—*Maj. J. R. Gibson:* Of late attention has been attracted to the general mess because of frequent complaints of the food. So far as my observation extends the supply of food is abundant, the bread ration especially being liberal and of exceptionally good quality. The causes of complaint seem to be in the preparation of the food and the cooking, which certainly is not up to the standard it was a few months since when a professional civilian cook was employed as chief. In the general mess at this depot 530 men are on an average fed daily. It is scarcely to be expected that this can be done by a force of untrained cooks, without the intelligent supervision of a thoroughly competent and skillful chief. This wood seem essential not only in the interest of the consumer, but also to secure an eco-

nomic use of the ration and thus avoid the otherwise inevitable waste. By some, the cause of complaint is attributed to the method of cooking by steam, alleging that the food is unpalatable and not relished, and here it is, doubtless, where the lack of skill is manifest. Cookery is an art, one not quickly acquired. If it is impracticable to employ skilled labor in the management of this mess, then the only alternative would seem to be to reduce the size of the mess to the capacity of the cooks, not that the less skill is required in the preparation of food for a smaller number, but less confusion would result and more time and care would be allowed in the preparation of the meals. Ordinarily one cook to fifty or sixty men, exclusive of helpers, is the ratio.

COLUMBUS BARRACKS, OHIO.—*Capt. A. A. DeLoffre:* The food is composed of the usual Army ration and vegetables from the garden. It is abundant and seems to be fairly well cooked. There is a great deal of dissatisfaction among the men in regard to the food. This is due, I believe, to the want of variety, and, I understand, want of proper service. The cooks seem to have a limited experience in the art of cooking, the bill of fare being composed for the most part of baked beef, boiled potatoes and cabbage, beef stews, pork and beans. The chief difficulty at the mess, I believe, is the want of a competent steward and competent cooks.

FORT RILEY, KANS.—*Maj. J. Van R. Hoff:* The departure of this command would take out of the mess hall every man familiar with its workings. A new garrison would have to organize at the foundation and learn from experience what has been gained here by nearly three years' trial. I have reason to believe that experience would be a bitter one, and unnecessarily so, since with a permanent personnel (which might be obtained through the instrumentality of the general service) a change of garrison would not leave the mess hall—as it now will—without a single man who knows anything of its workings. I have suggested the general service as a present means of attaining the end in view, but ultimately there should be a regularly organized corps, attached to the Subsistence Department, from which mess-hall and bakery assignments could be made.

FORT SHERIDAN, ILL.—*Capt. S. R. Stafford, Fifteenth Infantry, in charge of mess:* The diet table prepared by the post surgeon involves the following expenditures per month for food in addition to the ration:

1,000 pounds fresh fish	$60.00
1,050 pounds fresh pork	88.40
800 pounds ham	72.00
640 pounds cheese	76.80
600 heads cabbage	72.00
320 pounds dried fruit	28.80
50 bushels potatoes	25.00
12,000 pounds ice	25.00
64 gallons milk	10.60
Total	458.60

One hundred dollars only can be depended upon as savings from the ration, consequently an indebtedness of nearly $400 must be incurred in anticipation of profits to be made in the post exchange. The credit system may be a good one for general trade, but it is not the proper one for an army mess. The company commander does not expend money until savings have been made, and I believe that the statement would also apply to the officer in charge of the hospital mess fund. For reasons of economy and expediency the officer in charge should not be hampered by a fixed diet table. It often happens that an accumulation of cold meat, etc., must be used for hash; if hash is not authorized by the diet table the meat must be thrown away. The table calls for hominy and sirup; on all occasions when it has been supplied nearly the whole quantity cooked was thrown away. The post surgeon suggests, "Try gravy with it." This is not only a departure from the diet table, but also suggests the necessity for experiment. Attention is invited to the fact that the cooks employed in the mess are unskilled. The chief cook informs me that to get a sufficient number of griddle cakes for supper he must commence to bake them immediately after dinner. Cabbage, which the table calls for frequently, is too expensive to purchase at present market rates.

In view of the above, and in order to avoid repetition of the condition of indebtedness from which the mess has just been relieved, I would respectfully recommend that the diet table be so revised as to show a reduction of at least $100 in the total expenditures for extras, and that the officer in charge may be at liberty to make such changes in the table as are made necessary by the conveniences for supply, conditions of the markets, and the amount of money available for the purchase of supplies.

Maj. A. C. Girard: I admit the correctness of Capt. Stafford's remarks, although

the cost of extras is figured a little too high, in my opinion, and the savings estimated too low (last month they were about $150).

In view of the great complaints formerly made about the mess, it appeared to me that restoration of the mess fund to a healthy condition should be gradual, hence I suggested the diet table.

I believe the officer in charge of the mess is correct in claiming the advisability of a certain amount of latitude, but it should be exercised more in the direction of interchange than reduction.

As to the griddle cakes, I admit their impracticability, and would suggest corn bread as a substitute.

I would be glad to meet the mess officers in a revision of the diet table, so as to make the desired reduction in cost.

Maj. A. C. Girard: After conference with the mess officers and with their full approval of its practicability, I have the honor to submit inclosed a revised diet table, with the recommendation that it remain in force until changes appear desirable.

It differs from the other diet table in the omission of fresh fish, ham, and one day's cheese (substituting therefor parts of the ration), and in a certain latitude being given the mess officers in the form of preparation of certain dishes.

As it now stands, I am assured by the mess officers that it can be strictly adhered to. The peculiar tastes of the enlisted men as to preparation and variety have been carefully considered.

Diet table.

Day.	Breakfast.	Dinner.	Supper.
Sunday	Pork sausage, mush, bread, and coffee.	Roast pork, potatoes, pudding, bread.	Plum dough, tea, and bread.
Monday	Baked hash, bread, and coffee.	Rice soup, boiled beef, turnips, potatoes or onions, bread.	Corned beef, corn bread, tea.
Tuesday	Codfish hash, potatoes, bread, and coffee.	Bean soup, bacon or pork, potatoes, and bread.	Irish stew, tea, and bread.
Wednesday	Fried bacon or pork, cornmeal mush, bread, and coffee.	Roast beef, mutton or veal, potatoes, apple sauce, bread.	Stewed fruit, corn bread, cheese, tea.
Thursday	Baked hash, bread, and coffee.	Pork and beans, bread, and coffee.	Corned beef, fried potatoes, tea, and bread.
Friday	Codfish hash, bread, and coffee.	Pea soup, boiled beef, vegetables, bread.	Irish stew, tea, and bread.
Saturday	Beefsteak, potatoes, bread, and coffee.	Potato soup, roast beef, veal or mutton, potatoes, bread.	Corned-beef hash, tea, and bread.

I have also the honor to recommend, after consultation with the mess officers and careful consideration of the financial prospects of the mess, that in order to give it the great benefits accruing from the use of cows and pigs, for the purchase of which there is but slight prospect in the near future if the savings of the mess have to be depended on, that each company commander be directed to make a loan of $75 to the mess for this specific purchase from his company fund, this loan to be repaid pro rata as the profits from the investment accrue or, in case of removal of an organization, to be repaid from the mess fund.

I am informed that all, or nearly all, companies have this sum of money on hand, and it would be clearly to the benefit of the men if this money was utilized—the capital remaining still as a safe investment of the company fund.

CLOTHING.

The most important points to be noted under this heading are the insufficiency and unsuitability of the underclothing. On account of our great extent of territory and range of temperature, the underclothing is both too heavy and too light. It is too heavy for the southern posts, particularly in summer, giving rise to much irritation of the skin and consequent suffering and loss of sleep. It is too light for winter wear, especially at our northern posts, where the canton flannel drawers give almost no protection to the legs, subjecting the men to rheumatic pains, or to dangerous internal inflammations, unless they protect themselves

by the clumsy expedient of wearing two pairs, or by the expensive one of purchasing woolen garments. The importance of this subject justifies the recommendation that woolen drawers for winter, and lighter undershirts for summer wear, be issued by the Quartermaster's Department.

HABITS.

The habits of the men as expressed by the rates for venereal disease and alcoholism have not improved materially during the past year, but the tendency is however towards continued improvement. See page 47. Credit for beneficial effects is given to the canteens at several posts. Indeed, Fort Bayard, N. Mex., is the only one from which has come an adverse criticism; but the increase in the rate for alcoholism at this post has been small, 9.43 admissions in the past year, per thousand of strength, as compared with 6.85 in the previous year.

FORT MCPHERSON, GA.—*Maj. P. J. A. Cleary:* The habits of the men are cleanly and soldierly, and I may add remarkably sober. I have been at this post since November last and witnessed several pay days, and have not yet heard boisterous noise or talk. A few years back a garrison of this size would have filled the hospital after each pay day; at this post a case of alcoholism in hospital is very rare, and there has not been a case of alcoholic delirium since I came here. I believe this condition is largely if not wholly due to the excellent post canteen, or exchange; there may be other agents, but I believe this the most efficient.

FORT WASHAKIE, WYO.—*Lieut. Charles F. Mason:* The good influence of the canteen becomes more apparent with the lapse of time, by lessening the number of cases of intoxication, through its savings improving the mess, and by its general effect upon the morals of the men. I am convinced it has materially lessened the number of days lost to the Government through sickness and injury.

JACKSON BARRACKS, LA.—*Capt. W. L. Kneedler:* Much of the temporary and permanent disability at this post is produced by alcoholic drinks and venereal diseases. Although for various causes the first attempt to establish a canteen failed I believe that a properly conducted canteen would lessen these evils.

FORT BAYARD, N. MEX.—*Capt. E. T. Comegys:* The habits of the men are not so good since the establishment of the post canteen.

FACILITIES FOR PERSONAL CLEANLINESS.

Most of our large posts are provided with lavatories and facilities for bathing with comfort, either in a bathroom attached to each set of company quarters or in a post bath house. The latter is recommended for all large and permanent posts because better facilities can be procured for the outlay that would be required to support a number of company bathrooms. Two objections have been raised against the post bath house—that its distance would deter the men from bathing as frequently as they do in their company rooms, and that they would be liable to catch cold after a hot bath in returning to quarters in cold weather. The inconvenience of having to go a short distance for his bath would scarcely prevent any man from bathing who was desirous of doing so, and those who are not desirous of doing so would be likely to neglect advantages of this kind that were nearer at hand. The danger of catching cold in returning may be avoided by the use of the tepid and cold spray after a hot bath.

At Fort Sam Houston, Tex., the post surgeon recommended the removal of the bath tubs from the company barracks, and the erection of a post bath house. This was disapproved by the post commander on the ground that the existing arrangements had given entire satisfaction. It then appeared that the object of the medical officer was not so much the establishment of a general bath house as the removal of the company bathrooms from the basement of the men's quarters.

Dampness, and the possibility of defective traps, he considered objectionable underneath the dormitories of the men, especially in winter when doors and windows were closed. His recommendation was therefore changed to the erection of bathrooms and lavatories immediately in rear of each barrack building. At Fort Sherman, Idaho, it appears that the general bath house is excellent in all its arrangements, with the exception that it is provided with only one tub for each company. The post surgeon suggested extra tubs or sprays, but a doubt as to the advisability of putting any additional weight on the building led to the disapproval of his recommendation. At Fort McKinney, Wyo., there is a post bath house, but when the water in the pipes freezes in the winter it becomes useless.

At several of the posts the accommodations are of the most primitive character. Camp at Eagle Pass, Tex., for instance, has one bath tub for a troop of cavalry, and when a man desires to have what he calls a general police he makes a number of journeys with a bucket between the bath tub and the water barrels outside. Most of the men make no use of these bathing privileges, but, weather permitting, take to the river for their bath. At Fort Spokane, Wash., Fort Du Chesne, Utah, Fort Niobrara, Nebr., Newport Barracks, Ky., and Fort Schuyler, N. Y., the arrangements for bathing are inadequate and comfortless to say the least. At San Diego Barracks, Cal., the company has but one bath tub for 50 men, and the kitchen can spare hot water for the bathroom only a few hours daily. One small circular tub is provided for a company at San Carlos, Ariz. It is true the Gila River is convenient, but its water is usually too muddy to be used as an aid to personal cleanliness. Fort Ringgold, Tex., has good company bath houses with two tubs in each but no provision for hot water. Fort Grant, Ariz., began the year with poor accommodations and no hot water, but in July a post bath house was constructed and immediately thereafter there was an end to all complaints about the personal uncleanliness of the men. Steps have recently been taken by the Quartermaster's Department to provide Fort Washakie, Wyo., with the necessary bathing facilities. At Fort Brady, Mich., Capt. Paul Clendenin made an earnest effort to procure bathing accommodations for the men, ultimately urging that in default of bathrooms at the post an arrangement should be made for personal cleanliness by contract at Government expense with some bathing establishment in town.

FORT SHERMAN, IDAHO.—*Maj. A. A. Woodhull:* The bath house here is the best in its general arrangement of any that I have seen in the Army. But it is perfectly possible to double its capacity with no other expense than that for tubs, and, as one tub for a large company is hardly sufficient, I recommend that such estimates be made. A slight screen between the tubs will secure the desired privacy. If tubs can not be purchased or are not desired it is perfectly practicable to add to each bathroom conveniences for two cold and warm shower baths. For mere purposes of cleanliness a moderate shower of warm water is the most serviceable and the least expensive. Two cells for such purposes would treble the bathing capacity of each room.

In an indorsement on this report the post commander states:

The bath-house system works admirably. I would much prefer having the system as it is, as any additional tubs and pipes would of necessity increase the weight of the structure, and I believe that is to be avoided by all means.

FORT MCKINNEY, WYO.—*Lieut. W. N. Suter:* There is no suitable provision made in most of the company quarters for the men to bathe. Some of those who have come for medical treatment have been in an uncleanly condition. They all stated that they had no means of bathing. The bath house is not open, owing to the freezing of the pipes, but in cold weather it is not altogether safe to allow its use, as men are liable to contract illness by taking hot baths and going at once a considerable distance in the cold air to their quarters.

CAMP EAGLE PASS, TEX.—*Lieut. Ogden Rafferty:* The quantity of water, although

sufficient for cooking, does not meet the demand for bathing through the summer months. There is but one bath tub for the troops; the water for it is carried by the bather in a pail from the barrels outside the building. Most of the troops discard this bath privilege throughout the year, preferring the river with its attending discomforts.

FORT SCHUYLER, N. Y.—*Maj. W. D. Wolverton:* The bathing facilities in barracks are insufficient, being not provided with sufficient water, light at night defective, and tubs greatly in need of renovation by being made smooth inside and repainted. A modern bathroom for the troops, containing ten tubs and twelve closets, is urgently needed.

NEWPORT BARRACKS, KY.—*Capt. Henry I. Raymond:* The attention of the commanding officer is invited to the fact that the bathing facilities of this garrison are such that very few of the enlisted men avail themselves of the use of the bath rooms owing to scarcity of warm water or for other reasons. Not a few of the men, it is believed, either seek bathing facilities elsewhere or else do not attend properly to their ablutions, which should be obligatory at least once a week and under such conditions that all can be accommodated and provided for within the company bath rooms.

FORT NIOBRARA, NEBR.—*Lieut. J. D. Poindexter:* The bath tubs in several of the barracks are so leaky as to be unfit for use. In troops E and F the tubs have never been used by the present garrison, the men preferring to go to the river or to use a bucket. These tubs, together with several others, are foul and uninviting, as are likewise the rooms in which they are placed.

FORT DU CHESNE, UTAH.—*Capt. S. Q. Robinson:* Attention is again invited to the scanty and otherwise defective facilities for ordinary morning ablutions and general bathing. It is respectfully recommended that plans and estimates be forwarded to remedy this. It is certainly practicable to construct in such a manner that if the long-expected water system were introduced no great expense or change would be required to connect it.

The Uintah is available for five months in the year, but the bottom is rough and the mosquitoes swarm about the banks in the early summer. Combining the factors of heavy knit undershirts not removed at night, two drills daily, considerable fatigue, stables to attend for the colored troops, and high temperature, with, for the past few days, considerable atmospheric humidity, the best facilities that could reasonably be expected would be overtaxed. A few washtubs, often personal property, and a borrowed bath tub for the use of 150 men cut no figure. Even these, except in Company D, whose quarters have an extemporized drain, have to be filled with buckets and emptied in the same manner. When hot water is required it has to be warmed on the heating stoves in the small bath rooms, which consumes much time and raises the temperature of the room to an undesirable degree. The question of the water system having been decided in the negative, I respectfully recommend, without attempting to indicate in what manner it can best be done, that the necessary steps be taken as soon as practicable to remedy this unsanitary state of affairs. It is respectfully suggested that the construction of a platform at the most suitable place on the river would be something in this direction immediately possible.

FORT SPOKANE, WASH.—*Maj. V. B. Hubbard:* The bathing facilities for enlisted men are entirely inadequate for their number. I would urgently recommend that measures be adopted as soon as practicable to remedy this unsanitary condition.

SAN DIEGO BARRACKS, CAL.—*Maj. S. M. Horton:* The post guardhouse has neither water-closets, urinal, nor lavatory. These are very much needed for the reason that urinals and water-closets of the company are nearly twice the length of the entire barracks away from the guardhouse and the lavatory of the men of the company is distant from it. * * * The only bath tub which the company has is used by 50 men in the company. Owing to the necessity of the kitchen for hot water for cooking and washing dishes three times a day, there only remain but five hours in each day in which it is convenient for men to get hot water for bathing.

Col. J. R. Smith, Medical Director: Until the question of a new post at San Diego is settled, I do not think expenditure necessary to carry out the recommendation of the post surgeon.

SAN CARLOS, ARIZ.—*Capt. R. W. Johnson:* The bathing facilities for the command are entirely inadequate; one small circular tub does duty for one entire company and the other companies are not much better supplied. If the water of the Gila River were not so dirty and muddy the need of bath tubs would not be so apparent, but under existing circumstances I think two large tubs are necessary and would add materially to the comfort and convenience of the men.

FORT RINGGOLD, TEX.—*Capt. Jas. E. Pilcher:* The bathing facilities are good, each company and the hospital being provided with a bath house containing two tubs and a shower bath, and for summer use they are entirely sufficient. But during the cooler half of the year the water becomes too cold for either the plunge or the shower, and at this time the absence of suitable hot-water supply becomes a fatal defect.

The provision of supplying hot water in the bathing houses and the quarters at the earliest possible moment is strongly urged.

FORT GRANT, ARIZ.—*Capt. W. H. Arthur:* There is a lack of personal cleanliness among the men of the command, owing to the absence of proper bathing facilities. The difficulty in procuring hot water is one of the main causes. The boiler attached to the water back of an ordinary kitchen range is entirely inadequate to supply the amount of hot water required for the frequent bathing of the men, and many of the men, rather than heat their own water or bathe in cold water, dispense with bathing their bodies except at long intervals. The miserable bath houses with which the men here are accommodated undoubtedly tend to produce a feeling of aversion to the bath tub.

In my opinion it is very necessary that some steps should be taken without delay to enable the men to get an occasional bath. I have never seen soldiers brought to the hospital in a filthier condition than some of the cases at this post, and the men themselves can not be blamed, for they are almost entirely without bathing facilities.

FORT WASHAKIE, WYO.—*Lieut. Chas. F. Mason:* I would again call attention to the lack of any bathing facilities at the post. This want is an urgent one and is felt most keenly during the winter months, when it is often impossible for the men to reach the hot springs, 2¾ miles distant. I recommend that a stationary bath tub be placed in each set of officers' quarters, and that spray baths, with at least two compartments for each, be placed in every barrack. Of course these changes would necessitate the introduction of a sewerage system, but this could be very simple, a straight pipe in rear of the barracks, emptying into the river and provided with an arrangement for flushing from the pump house. Another similar and separate pipe should be placed in rear of the officers' quarters.

Col. Dallas Bache, Medical Director: Bathing facilities should be furnished to this post for the officers and their families by bathrooms in their houses and for the enlisted men by a bath house for general use. Such an establishment concentrates the distribution of water, cold and hot, and facilitates the removal of waste.

FORT BRADY, MICH.—*Capt. Paul Clendenin:* The supply of water appears to be sufficient for present uses, but if the bathing facilities were at all adequate the water supply would be entirely insufficient. As previously reported there is but one bath tub to each company of about sixty men. The result is that the men are compelled to go down town and bathe at some barber shop at their own expense. I most respectfully maintain that this is not right. The men are compelled by the regulations as well as common decency to keep their persons clean; and still there is no adequate provision made for them to do so. I earnestly recommend that a bath house containing at least six, and better eight, tubs be provided at the earliest practicable date, with proper facilities for heating the water and heating the room. Men will bathe frequently enough (at least such has been my observation) if the means for taking a bath are made convenient and comfortable. And taking a bath, especially a sponge bath, in a drafty room, no matter how well heated, in this part of the country, with the temperature in the neighborhood of zero, is anything but a luxury. There are no facilities whatever for bathing in the officers' quarters. We are compelled for ourselves and our families to make arrangements in the town for bathing at hotels or other private establishments, because, as indicated above, it is impossible to take a satisfactory bath in the quarters. As far as I can learn from unofficial conversations with the officer in charge of the construction of the new post at this place it will be fully two years before the new quarters are ready for occupancy. I know how difficult it is to obtain anything for a post that is doomed to speedy abandonment; still it does appear to me that two years of use would justify the expenditure of a sufficient sum of money to put in very convenient bath tubs in each set of quarters. The outlet for waste water could be arranged with a very sharp fall and thus obviate the danger of the waste pipe freezing, particularly as the water would always be hot.

A very comfortable bath house could be built for the enlisted men. Such a place should have six tubs and two jet or shower baths. The water could be heated in a large reservoir on the heating stove, or, if the water is brought into the post, one of the many special stoves made for heating bath water by its being forced through coils of pipe inside the stove and thence into an upright reservoir could be used to better advantage. The reservoir should hold about 200 or 250 gallons. The room should be kept well heated and the men instructed to pass from the hot bath to the shower and cool their bodies gradually by beginning with a tepid spray and slowly turning on the cold water—this to prevent catching cold by going directly from a hot bath into the cold air, a thing which they are now compelled to do.

In October Capt. Clendenin recommended that the men should be provided with means for cleanliness by contract with some establishment in town at Government expense.

ATHLETIC EXERCISES.

I desire here to urge again and earnestly the recommendation made in my last annual report, that at each post a systematic course of athletic exercises be instituted to improve the physique of the men. The recruits are below par, and although drilling will set them up individually and move them in accord, it by no means effects a thorough development of all the physical powers. Besides, drills after a time become monotonous and, being a task, fail to interest the men. A graded course in gymnastics under the supervision of a qualified officer would give us soldiers who, besides being able to march, carry a rifle, and use it with precision, would be able to run, leap, vault, swim, scale walls, hurl an extemporized missile with deadly force, wrestle with an enemy, or shoulder a wounded comrade and carry him out of danger. Young men take pleasure in those exercises that develop their muscular powers, and as the athlete cares more for his training than for vicious indulgence such a course would reduce the prevalence of drunkenness to a minimum.

FORT MISSOULA, MONT.—*Lieut. Charles E. Woodruff:* Having no amusement rooms, and caring little for reading, the men spend much time among the adjacent rum shops. Their habits might be improved by the construction of a gymnasium and proper lounging or amusement rooms, the latter to be as addition to barracks.

FORT RILEY, KANS.—*Maj. John V. R. Hoff:* My observation of the general appearance and physique of the men of this command has still further impressed me with the advantages to be derived from a properly equipped and conducted gymnasium here. It should go without saying that a soldier (I mean the typical soldier) must be an athlete, and yet, save through the instrumentality of uninteresting garrison routine, drill, fatigue, guard, the post offers no facilities for or inducements to the athletic training of the officers or enlisted men. It is a rather astonishing fact that while all the rest of the world has gone into athletics, the Army, in this respect, remains just where it was, or is even worse than fifty years ago. Certainly there must be something in physical training or it would not have taken such a hold upon the people and entered so largely in the education of our youth. A half century ago athletic contests were not known in the schools and colleges of our country, but in this generation these contests have become famous the world over. But who ever heard of athletic contests in our service? There is no encouragement, no facilities. Drill is a task. It certainly does not give pleasure to the average enlisted man, and is consequently a labor, while exercise to be most profitable must be pleasurable, a relief from the routine of the endless monotony of garrison duty.

APPENDED PAPERS.

In closing, I have the honor to invite attention to a series of tables which give in detail the statistical data on which the statements of this report are based. They consist of—

I. A numerical view of the effects of diseases and injury on the Army during the calendar year 1891, as compared with the corresponding data of the year 1890 and of the decade ending December 31, 1889.

II. The relative sickness of the troops, white and colored, in the various military departments.

III. The military posts in each department, alphabetically arranged, with mean strength, admissions for disease and injury; also deaths and discharges, with ratios per thousand of strength for admissions and noneffectiveness, the averages of daily sickness, and the meteorological data for the year 1891.

IV. A general view of the results of disease and injury at each of the various military stations, arranged in the order of their mean strength.

V. Twenty posts having the highest rates of admission for the year; the said rates compared with those of 1886–'90, inclusive.

VI. Twenty posts having the highest rates of noneffectiveness during the year; the said rates compared with those of 1886–'90, inclusive.

VII. Twenty posts having the highest admission rates for disease, excluding venereal diseases, vaccina, and alcoholism, together with their ratios for deaths, discharges, and constant noneffectiveness; also the corresponding average rates of the Army.

VIII. Twenty posts having the highest noneffective rates for disease, excluding venereal diseases, vaccina, and alcoholism, together with the average number sick daily and average duration of each case; also the corresponding average rates of the Army.

IX. The military posts in each department, showing the rates of admission, death, discharge, and noneffectiveness for disease, not including venereal diseases, vaccina, nor alcoholism.

X. The monthly prevalence of disease among the white, colored, and Indian troops of the Army.

XI. The rates, per thousand of strength, of admission, death, discharge, and noneffectiveness of the Army and of the troops in the several departments for the year, as compared with those of the decade 1880–'89, and of certain foreign armies.

XII. Admission rates for specific febrile diseases in various armies.

XIII. Distribution of specific febrile diseases at United States military posts during the year.

XIV. The distribution of pneumonia at United States military posts during the year.

XV. Twenty posts giving the largest admission rates for malarial diseases, rheumatism, diarrheal and venereal diseases, respectively.

XVI. Twenty posts giving the highest noneffective rates for malarial diseases, rheumatism, diarrheal and venereal diseases, respectively.

XVII. The prevalence of alcoholism at the various posts and its influence on the effective force of the garrison.

XVIII. Showing the loss and gain to the hospital corps for the year ending June 30, 1892.

XIX. The causes and ratios of rejection among 35,050 recruits examined during the year, white, 23,725; colored, 1,325.

Tables showing the relation of certain classes of disease and of certain specified diseases to arm of service and to the age, nativity, and length of service of the individual have not been prepared this year on account of the want of certain necessary data. These will be procured and the tables submitted with the next report from this office.

Respectfully submitted.

O. SUTHERLAND,
Surgeon-General.

Hon. STEPHEN B. ELKINS,
Secretary of War.

APPENDED PAPERS.

STATISTICAL TABLES.

TABLE I.—*A numerical view of the effects of disease and injury in the Army during the calendar year 1891, as compared with the corresponding data from the reports of 1890 and of the decade 1880–'89.*

United States Army.	White.	Colored.	Indians.	Total.
Average strengths as shown by returns of the Adjutant-General	*23,896	*2,251	*313	*26,460
as shown by reports of the medical department	†20,909	†2,064	†296	†23,269
All admissions to sick report during the year	27,970	3,255	532	31,757
treated in hospital	13,377	1,631	185	15,193
treated in quarters	13,751	1,463	346	15,560
treated in field	842	161	1	1,004
Ratios of all admissions per 1,000 of mean strength	1,337.70	1,577.03	1,797.30	1,364.78
for the previous year	1,347.28	1,732.79	.....	1,384.25
for the preceding decade	1,482.88	1,619.34	.....	1,496.08
Admissions for disease	22,921	2,614	430	25,965
ratios per 1,000 of mean strength	1,096.23	1,266.47	1,452.70	1,115.86
for the previous year	1,110.59	1,422.98	.....	1,140.54
for the preceding decade	1,241.13	1,337.87	.....	1,250.49
Admissions for injury	5,049	641	102	5,792
ratios for 1,000 of mean strength	241.47	310.56	344.59	248.91
for the previous year	236.69	309.81	.....	243.71
for the preceding decade	241.75	281.48	.....	245.59
Ratios per 1,000 of mean strength of cases treated in hospital	639.77	790.21	625	652.93
of cases treated in quarters	657.66	708.82	1,168.92	668.70
of cases treated in field	40.27	78	3.38	43.15
Number constantly noneffective during the year	870.86	91.07	15.50	977.43
ratios per 1,000 of mean strength	41.65	44.12	52.36	42.01
for the previous year	42.19	47.66	.....	42.71
for the preceding decade	43.50	43.44	.....	43.49
Number of days lost on account of sickness during the year	317,866	33,239	5,657	356,762
average for each man of the Army	15.2	16.1	19.1	15.3
for the previous year	15.4	17.4	.....	15.6
for the preceding decade	15.9	15.9	.....	15.9
Average number of days each case was treated	11.4	10.2	10.6	11.2
for the previous year	11.4	10	.....	11.3
for the preceding decade	10.7	9.8	.....	10.6
Average days treatment for patients returned to duty	9.99	8.9	10.16	9.88
discharged for disability	77.98	99.58	.....	79.84
who died	16.11	36.31	37.50	17.83
Number of discharges for disability	412	43	1	456
ratios per 1,000 of mean strength	17.24	19.10	3.19	17.23
for the previous year	22.43	28.61	.....	23.01
for the preceding decade	31.42	30.99	.....	31.37
Number of discharges for disease	340	42	1	383
ratios per 1,000 of mean strength	14.23	18.66	3.19	14.47
for the previous year	20.48	22.65	.....	20.69
for the preceding decade	27.78	26.57	.....	27.66
Number of discharges for injury	72	1	.....	73
ratios per 1,000 of mean strength	3.01	.44	.....	2.76
for the previous year	1.95	5.96	.....	2.32
for the preceding decade	3.64	4.42	.....	3.72

* Used in computing the ratios of deaths and discharges for the whole Army.
† Used in computing all ratios for the Army except those of deaths and discharges.

TABLE I.—*A numerical view of the effects of disease and injury in the Army during the calendar year 1891, etc.*—Continued.

United States Army.	White.	Colored.	Indians.	Total.
Number of deaths from all causes	195	16	2	213
ratios per 1,000 of mean strength	8.16	7.11	6.39	8.05
for the previous year	8.40	11.52	.....	8.69
for the preceding decade	8.58	11.01	.....	8.82
Number of deaths from disease	119	13	1	133
ratios per 1,000 of mean strength	4.98	5.78	3.19	5.03
for the previous year	4.88	8.74	.....	5.25
for the preceding decade	5.75	7.19	.....	5.89
Number of deaths from injury	76	3	1	80
ratios per 1,000 of mean strength	3.18	1.33	3.19	3.02
for the previous year	3.52	2.78	.....	3.45
for the preceding decade	2.83	3.83	.....	2.92

TABLE II.—*The relative sickness among the troops, white, colored, and Indian, in the various military departments during the year 1891.*

Army by departments.		Mean strength of command.	Admissions during the year 1891.						Admission rate per 1,000 of mean strength.	Troops per 1,000 of mean strength constantly nonoffective from sickness.
			Quarters.	Hospital.	Field.	Disease.	Injury.	Total.		
East	W	5,999	4,759	4,418	11	7,778	1,410	9,188	1,531.59	42.58
	C	122	47	182	.....	192	37	229	1,877.05	65.42
	I	50	41	49	.....	72	18	90	1,800.00	57.53
	T	6,171	4,847	4,649	11	8,042	1,465	9,507	1,540.59	43.16
Missouri	W	3,643	2,519	2,175	51	3,899	846	4,745	1,302.50	39.97
	C	77	42	82	.....	98	26	124	1,610.39	61.90
	I	8	.....	1	.....	1	.....	1	125.00	34
	T	3,728	2,561	2,258	51	3,998	872	4,870	1,306.33	40.34
Dakota	W	2,712	1,781	1,463	230	2,757	717	3,474	1,280.97	37.54
	C	401	220	266	14	398	102	500	1,246.88	31.08
	I	80	74	39	1	95	19	114	1,425.00	38.01
	T	3,193	2,075	1,768	245	3,250	838	4,088	1,280.30	36.76
Platte	W	3,099	1,665	1,896	376	3,235	702	3,937	1,270.41	38.68
	C	518	358	508	145	801	210	1,011	1,951.74	35.90
	I	73	23	59	.....	63	19	82	1,123.29	29.69
	T	3,690	2,046	2,463	521	4,099	931	5,030	1,363.14	38.11
Texas	W	1,644	1,012	1,331	63	1,933	473	2,406	1,463.50	45.68
Arizona	W	1,259	846	655	12	1,226	287	1,513	1,201.75	39.59
	C	940	796	591	2	1,123	266	1,389	1,477.66	43.79
	I	83	207	32	.....	193	46	239	2,879.52	86.48
	T	2,282	1,849	1,278	14	2,542	599	3,141	1,376.42	43.03
California	W	1,108	614	654	74	1,041	301	1,342	1,211.19	44.32
Columbia	W	1,410	555	771	25	1,038	313	1,351	958.16	34.28
	I	2	1	5	.....	6	.....	6	3,000.00	89.04
	T	1,412	556	776	25	1,044	313	1,357	961.05	34.36
Hot Springs, Ark.	W	35	.....	14	.....	14	.....	14	.....	.....
	C	6	.....	2	.....	2	.....	2	.....	.....
	T	41	.....	16	.....	16	.....	16	.....	.....
At large: Miscellaneous deaths and discharges.	W	.....	.....	.....	.....	.....	.....	.....	.....	.....
	C	.....	.....	.....	.....	.....	.....	.....	.....	.....
	T	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total for the Army.	W	20,909	13,751	13,377	842	22,921	5,049	27,970	1,337.70	41.65
	C	1,064	1,463	1,631	161	2,614	641	3,255	1,577.03	44.12
	I	296	346	185	1	430	102	532	1,797.20	52.36
	T	23,269	15,560	15,493	1,004	25,965	5,792	31,757	1,364.78	42.01

TABLE II.—*The relative sickness among the troops, etc.*—Continued.

Army by departments.		Deaths.	Annual death rate per 1,000 of mean strength.	Discharged for disability.	Annual discharge rate per 1,000 of mean strength.	Average duration of treatment among patients— Who died.	Who were discharged for disability.	Who recovered.	Death rate per 1,000 of admissions.	Discharge rate per 1,000 of admissions.	Recoveries per 1,000 of admissions.	Average sick daily	Average duration of treatment among all admissions.
East	W	44	7.33	108	18.00	16.3	61.9	9.2	4.79	11.75	940.79	255.46	10.1
	C	1	8.20	3	16.39	22.0	79.7	11.7	4.37	13.10	917.08	7.98	12.7
	I	1	20.00	.....	.....	73.0	.....	10.1	11.11	.....	933.33	2.88	11.7
	T	46	7.45	111	17.99	17.6	62.4	9.3	4.84	11.68	940.15	266.32	10.2
Missouri	W	30	8.23	60	16.47	12.3	86.4	9.7	6.32	12.64	953.85	145.62	71.2
	C	1	12.99	3	38.96	10.0	54.7	11.0	8.06	24.19	911.29	4.77	14.0
	I	.....	.....	.....	.....	.....	.....	1.0	.....	.....	1,000.00	.....	1.0
	T	31	8.32	63	16.90	12.2	84.9	9.7	6.37	12.94	952.77	150.39	11.3
Dakota	W	18	6.64	38	14.01	23.2	94.0	9.2	5.18	10.94	959.99	101.82	10.7
	C	4	9.98	6	14.96	28.3	135.2	7.6	8.00	12.00	968.00	12.46	9.1
	I	.....	.....	.....	.....	.....	.....	8.9	.....	.....	912.28	3.10	9.9
	T	22	6.89	44	13.78	23.4	99.6	8.7	5.38	10.76	959.64	117.38	10.5
Platte	W	46	14.84	31	10.00	10.0	92.9	10.2	11.68	7.87	954.53	119.87	11.1
	C	3	5.79	5	9.65	22.0	78.0	6.3	2.97	4.95	985.16	18.60	6.7
	I	1	13.70	1	13.70	2.0	.....	10.0	12.20	12.20	951.22	2.17	9.6
	T	50	13.55	37	10.03	10.6	88.4	9.4	9.94	7.36	960.64	140.63	10.2
Texas	W	18	10.95	32	19.46	35.1	60.9	9.5	7.48	13.30	963.42	75.09	11.4
Arizona	W	8	6.35	25	19.86	24.6	81.5	9.7	5.29	16.52	967.70	49.84	12.0
	C	7	7.45	19	20.21	55.1	86.9	9.0	5.04	13.68	954.64	41.16	10.8
	I	.....	.....	.....	.....	.....	.....	10.8	.....	.....	991.63	7.18	11.0
	T	15	6.57	44	19.28	38.9	83.9	9.5	4.78	14.01	958.93	98.18	11.4
California	W	8	7.22	21	18.95	.8	65.9	11.5	5.96	15.65	960.51	49.10	13.4
Columbia	W	12	8.51	31	21.99	24.6	79.2	10.7	8.88	22.95	954.11	48.34	13.1
	I	.....	.....	.....	.....	.....	.....	13.3	.....	.....	666.67	.18	10.8
	T	12	8.50	31	21.95	24.6	79.2	10.7	8.84	22.84	952.84	48.52	13.0
HotSprings, Ark	W	1	.....	25	.....	51.0	239.4	174.1	.....	.....	.....	25.73	.....
	C	.....	.....	4	.....	.....	256.5	162.7	.....	.....	.....	6.09	.....
	T	1	.....	29	.....	51.0	241.7	171.6	.....	.....	.....	31.82	.....
At large: Miscellaneous deaths and discharges.	W	10	.....	41	.....	.....	.....	.....	.....	.....	.....	.....	.....
	C	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
	T	10	.....	44	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total for the Army.	W	195	8.16	412	17.24	16.1	78.0	10.0	7.01	14.73	953.27	870.86	11.4
	C	16	7.11	43	19.10	36.3	99.6	8.9	4.92	13.21	966.00	91.07	10.2
	I	2	6.39	1	3.19	37.5	.....	10.2	3.76	1.88	954.89	15.50	10.6
	T	213	8.05	456	17.23	17.8	79.8	9.9	6.71	14.36	954.53	977.43	11.2

TABLE III.—*Military posts in each department, alphabetically arranged, with mean strength, admissions for disease and injury, also deaths and discharges, with ratios per thousand of strength for admissions and non-effectiveness, the averages of daily sickness, and meteorological data for 1891.*

DEPARTMENT OF THE EAST.

Names of stations.	Mean strength.	Cases.			Admission rate per 1,000 of mean strength.	Average number of sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharge for disability.	Deaths.	Altitude of stations.	Temperature.			Total precipitation.
		Disease.	Injury.	Total.							Mean.	Maximum.	Minimum.	
										Feet.	°	°	°	In.
Fort Adams, R. I	242	204	62	266	1,099.17	8.11	33.52	....	2	30	48.8	95	5	30.52
Allegheny Arsenal, Pa	30	27	7	34	1,133.33	.82	27.40	....	....	704	53.1	95	5	39.82
Augusta Arsenal, Ga	22	11	2	13	590.91	.43	19.67	1	....	600	63.8	98	22	46.76
Fort Barrancas, Fla	108	232	52	284	2,629.63	11.16	103.33	1	1	30	67.3	95	29	35.58
Columbia Arsenal, Tenn	12	53	4	47	3,916.66	.93	77.86	....	1	....	....	....	....	....
Columbus Barracks, Ohio	586	1,159	136	1,295	2,209.89	45.20	77.13	14	6	740	52.6	94	5	42.65
Fort Columbus, N. Y	246	179	31	210	853.66	7.49	30.45	....	2	25	53.2	97	10	42.32
Davids Island, N. Y	547	895	136	1,031	1,884.82	28.24	51.62	3	1	30	51.8	96	8	34.92
Frankford Arsenal, Pa	38	43	4	47	1,236.84	1.31	12.58	....	1	50	54.3	97	10	42.83
Fort Hamilton, N. Y	249	478	102	580	2,329.32	13.07	52.50	10	1	47	52.9	93	5	43.63
Jackson Barracks, La	105	153	33	186	1,771.43	7.21	68.70	4	2	10	67.1	97	27	48.44
Kennebec Arsenal, Me	12	11	1	12	1,000.00	.07	5.94	....	....	200	41.7	89	—19	25.92
Fort McHenry, Md	136	172	26	198	1,455.88	8.21	60.34	6	1	36	54.5	93	14	48.48
Fort McPherson, Ga	319	672	92	764	2,394.98	19.50	61.12	16	3	1,078	60.4	95	15	50.82
Madison Barracks, N. Y.	316	419	64	483	1,528.48	10.19	32.24	1	2	262	46.0	92	—11	29.12
Fort Monroe, Va	437	519	84	603	1,379.86	14.08	32.23	6	3	8	....	....	....	....
Mount Vernon Barracks, Ala	161	181	27	208	1,291.93	9.11	56.59	1	1	155	65.9	100	21	56.40
Fort Myer, Va	173	137	47	184	1,063.58	6.22	35.98	1	1	200	54.9	96	11	54.36
Newport Barracks, Ky	63	72	9	81	1,285.72	2.06	32.75	1	....	588	53.8	94	5	39.29
Fort Niagara, N. Y	146	79	39	118	808.22	2.59	17.72	2	....	271	....	....	....	....
Fort Ontario, N. Y	57	71	16	87	1,526.31	1.84	32.30	3	....	282	46.6	90	1	31.44
Plattsburg Barracks, N. Y	64	61	19	80	1,250.00	2.41	37.63	....	2	186	44.5	94	—13	26.05
Fort Porter, N. Y	106	98	13	111	1,047.17	3.09	29.18	2	....	660	47.9	90	4	30.74
Fort Preble, Me	66	55	5	60	909.09	1.09	16.52	....	1	38	46.9	95	— 8	36.09
Sandy Hook, N. J	44	48	22	70	1,590.91	.71	16.07	....	1	....	....	....	....	....
Fort Schuyler, N. Y	94	57	18	75	797.87	2.80	29.81	3	1	25	51.5	92	5	39.76
Springfield Armory, Mass	27	11	3	14	518.52	.18	6.59	....	....	250	49.8	95	0	47.01
St. Francis Barracks, Fla.	107	281	53	334	3,121.50	5.93	55.43	3	3	15	69.2	97	30	49.19
Fort Thomas, Ky	132	161	24	185	1,401.52	4.33	32.77	6	2	....	....	....	....	....
Fort Trumbull, Conn	65	37	13	50	769.23	1.47	22.55	....	....	25	52.3	97	8	49.21
Fort Wadsworth, N. Y	159	188	55	243	1,528.30	5.05	31.77	5	1	140	54.2	96	10	48.28
Fort Warren, Mass	101	43	28	71	702.97	3.22	31.87	1	....	38	48.8	89	0	43.68
Washington Barracks, D. C	310	481	69	550	1,774.19	14.76	47.61	11	2	106	55.4	95	15	52.95
Watertown Arsenal, Mass	29	13	2	15	517.24	.52	18.04	....	....	100	....	....	....	....
Watervliet Arsenal, N.Y.	59	60	10	70	1,186.44	2.84	48.15	1	....	50	....	....	....	....
West Point, N. Y	373	309	57	366	981.23	9.50	25.46	4	2	167	....	....	....	....
Willets Point, N. Y	363	365	95	460	1,267.22	10.40	28.64	5	2	80	52.4	95	9	44.25
Fort Wood, N. J	56	10	1	11	196.43	.04	.73	....	....	....	....	....	....	....
Field	11	7	4	11	1,000.00	.13	11.46	....	1	....	....	....	....	....
Total	6,171	8,042	1,465	9,507	1,540.59	266.32	43.16	111	46	....	....	....	....	....

DEPARTMENT OF DAKOTA.

Fort Abraham Lincoln, N. Dak	63	43	13	56	888.89	1.66	26.35	....	....	1,914	....	....	....	....
Fort Assiniboine, Mont	407	370	83	453	1,113.02	12.33	30.29	7	5	2,720	41.4	92	—34	17.06
Fort Bennett, S. Dak	81	40	10	50	617.28	1.59	19.61	....	....	1,510	....	....	....	....
Fort Buford, N. Dak	164	89	41	130	792.68	4.34	26.48	3	....	1,920	39.6	97	—34	18.96
Fort Custer, Mont	346	549	138	687	1,585.56	20.56	59.43	5	1	3,040	....	....	....	....
Fort Keogh, Mont	338	371	78	449	1,328.40	13.70	40.53	3	1	2,536	43.0	103	—37	14.18
Fort Meade, S. Dak	360	503	167	670	1,861.11	16.93	47.04	8	2	3,624	46.4	100	—33	21.79
Fort Missoula, Mont	186	151	32	183	983.87	3.89	20.90	3	1	3,375	43.2	96	—22	22.43
Fort Pembina, N. Dak	33	12	1	13	393.94	.18	5.40	....	....	900	36.4	93	—39	25.93
Camp Poplar River, Mont	101	71	19	90	891.10	1.90	18.85	....	....	2,030	40.8	99	—36	14.57
Fort Shaw, Mont	78	97	28	125	1,602.56	3.77	48.30	1	2	3,550	....	....	....	....
Fort Snelling, Minn	331	345	47	392	1,184.29	12.84	38.79	8	3	840	43.0	98	—25	22.97
Fort Sully, S. Dak	142	169	36	205	1,443.66	5.82	41.00	1	....	1,678	46.1	109	—24	13.34
Fort Yates, N. Dak	230	220	59	279	1,213.04	12.20	53.03	3	4	1,670	43.5	103	—30	18.49
Fort Yellowstone, Wyo.	59	40	21	61	1,033.90	2.08	35.20	1	1	....	39.2	89	—24	23.34
Field	274	180	65	245	894.16	3.59	13.09	1	2	....	....	....	....	....
Total	3,193	3,250	838	4,088	1,280.30	117.38	36.76	44	22	....	....	....	....	....

TABLE III.—*Military posts in each department, alphabetically arranged, with mean strength, admissions for disease and injury, etc.*—Continued.

DEPARTMENT OF THE PLATTE.

Names of stations.	Mean strength.	Cases. Disease.	Cases. Injury.	Cases. Total.	Admission rate per 1,000 of mean strength.	Average number of sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharge for disability.	Deaths.	Altitude of stations.	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Total precipitation.
										Feet.	°	°	°	In.
Fort D. A. Russell, Wyo.	377	241	87	328	870.02	9.64	25.57	4	....	6,021	44.1	89	— 7	18.97
Fort Douglas, Utah	416	364	61	425	1,021.64	14.42	34.67	4	7	4,904	50.8	98	2	15.26
Fort Du Chesne, Utah	207	277	70	347	1,676.33	6.59	31.86	2	....	.....	....	....	....	.....
Fort Lewis, Colo	43	19	6	25	581.39	1.05	24.47	....	....	8,500	....	....	....	.....
Fort Logan, Colo	287	419	37	456	1,588.85	22.09	76.98	3	17	.....	....	....	....	.....
Fort McKinney, Wyo	277	270	84	354	1,277.98	10.93	39.46	1	6	5,175	44.2	89	—25	14.19
Fort Niobrara, Nebr	396	551	141	692	1,747.47	17.11	43.21	4	3	2,750	44.0	101	—38	23.70
Fort Omaha, Nebr	418	429	87	516	1,234.45	17.03	40.74	9	2	960	49.7	97	— 9	34.92
Camp Pilot Butte, Wyo.	55	51	9	60	1,090.91	1.30	23.66	1	1	.....	41.6	96	—20	13.23
Fort Randall, S. Dak	82	66	16	82	1,000.00	2.60	31.67	1	1	1,245	46.8	95	—20	22.95
Fort Robinson, Nebr	404	700	158	858	2,123.76	17.44	43.16	5	4	3,675	....	....	....	.....
Fort Sidney, Nebr	191	190	45	235	1,230.37	7.96	41.70	2	3	4,326	....	....	....	.....
Fort Washakie, Wyo	152	98	33	131	861.84	3.56	23.41	1	1	5,462	....	90	—29	18.86
Field	385	424	97	521	1,353.25	8.90	23.12	....	5	.....	....	....	....	.....
Total	3,690	4,099	931	5,030	1,363.14	140.63	38.11	37	50	.....	....	....	....	.....

DEPARTMENT OF THE MISSOURI.

Names of stations.	Mean strength.	Cases. Disease.	Cases. Injury.	Cases. Total.	Admission rate per 1,000 of mean strength.	Average number of sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharge for disability.	Deaths.	Altitude of stations.	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Total precipitation.
Fort Brady	116	77	16	93	801.72	1.96	16.89	....	....	600	40.5	50	—31	24.19
Chicago, Headquarters Department of the Missouri	52	10	.....	10	192.31	.62	11.85	1	....	661	48.5	96	— 8	26.54
Camp Guthrie, Okla	20	20	7	27	1,350.00	.84	42.05	1	....	.....	61.5	100	10	32.27
Indianapolis Arsenal, Ind	25	38	4	42	1,680.00	.75	30.03	....	....	698	53.5	94	— 3	38.23
Jefferson Barracks, Mo	438	405	63	468	1,068.49	15.16	34.62	7	3	475	56.2	96	1	30.53
Fort Leavenworth, Kans	704	590	155	745	1,058.24	25.56	36.32	8	3	844	53.1	96	— 2	37.71
Prison Guard, Leavenworth, Kans	109	84	5	89	816.51	2.78	25.54	5	....	844	53.1	96	— 2	37.71
Fort Mackinac, Mich	110	119	19	138	1,254.55	3.24	29.44	2	1	728	40.7	83	—11	28.90
Camp Oklahoma, Okla	51	69	16	85	1,666.67	2.48	48.56	....	1	.....	....	....	....	.....
Fort Reno, Okla	302	571	97	668	2,211.92	17.97	59.47	4	5	3,200	58.8	100	10	26.77
Fort Riley, Kans	600	650	195	845	1,408.33	34.91	58.18	17	9	1,300	52.4	98	— 2	25.93
Rock Island Arsenal, Ill.	64	60	10	70	1,093.75	.99	15.50	....	1	528	49.4	94	—10	31.45
St. Louis, Headquarters Department of the Missouri	14	4	.....	4	285.71	.10	7.44	....	....	.....	56.2	96	4	30.53
Fort Sheridan, Ill	308	311	85	396	1,285.72	10.99	35.67	5	5	.....	....	....	....	.....
Fort Sill, Okla	304	499	93	592	1,947.37	13.88	45.67	4	2	1,200	60.0	101	12	32.76
Fort Supply, Ind. T	218	220	40	260	1,192.66	6.84	31.39	3	....	2,300	56.2	98	3	30.43
Fort Wayne, Mich	241	230	57	287	1,190.87	10.73	44.52	6	1	580	48.9	100	1	28.16
Field	52	41	10	51	980.77	.59	11.27	....	....	.....	....	....	....	.....
Total	3,723	3,998	872	4,870	1,306.33	150.39	40.34	63	31	.....	....	....	....	.....

DEPARTMENT OF ARIZONA.

Names of stations.	Mean strength.	Cases. Disease.	Cases. Injury.	Cases. Total.	Admission rate per 1,000 of mean strength.	Average number of sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharge for disability.	Deaths.	Altitude of stations.	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Total precipitation.
Fort Apache, Ariz	218	430	85	515	2,362.38	13.58	62.27	4	2	5,050	52.9	97	—14	13.36
Fort Bayard, N. Mex	318	343	63	406	1,276.73	16.08	50.56	8	2	6,040	53.7	98	— 3	10.30
Fort Bowie, Ariz	124	99	46	145	1,169.36	4.43	35.73	....	....	4,826	62.4	103	15	8.05
Fort Grant, Ariz	289	255	80	335	1,159.17	10.09	34.91	5	3	856	60.8	100	15	12.21
Fort Huachuca, Ariz	206	93	31	124	601.94	3.99	19.39	2	2	5,173	56.8	100	7	10.84
Fort Lowell, Ariz	13	1	5	6	461.54	.26	20.23	....	....	2,530	70.9	109	22	6.61
Fort Marcy, N. Mex	16	23	1	24	1,500.00	.62	38.87	....	1	6,846	47.3	87	— 6	16.79
San Carlos, Ariz	221	235	55	290	1,312.22	10.03	45.37	3	1	2,156	64.8	117	11	11.00
San Diego Barracks, Cal.	65	70	12	82	1,261.54	5.86	90.15	5	....	150	61.2	89	32	8.99
Fort Stanton, N. Mex	131	151	36	187	1,427.48	4.41	33.63	....	2	7,500	50.3	92	— 6	14.68
Fort Thomas, Ariz	58	87	18	105	1,810.34	1.95	33.59	....	2	2,710	....	....	....	.....
Fort Union, N. Mex	19	3	2	5	263.15	.22	11.68	....	....	6,700	....	....	....	.....
Whipple Barracks, Ariz.	242	250	49	299	1,235.54	11.92	49.25	13	....	5,340	52.0	98	— 2	14.66
Fort Wingate, N. Mex	340	493	111	604	1,776.47	14.51	42.68	4	....	6,649	49.0	96	— 7	14.27
Field	22	9	5	14	636.37	.24	10.83	....	....	.....	....	....	....	.....
Total	2,282	2,542	599	3,141	1,376.42	98.18	43.03	44	15	.....	....	....	....	.....

TABLE III.—*Military posts in each department, alphabetically arranged, with mean strength, admissions for disease and injury, etc.*—Continued.

DEPARTMENT OF TEXAS.

Names of stations.	Mean strength.	Cases.			Admission rate per 1,000 of mean strength.	Average number of sick daily.	Constantly non-effective per 1,000 of mean strength.	Discharge for disability.	Deaths.	Altitude of stations.	Temperature.			Total precipitation.
		Disease.	Injury.	Total.							Mean.	Maximum.	Minimum.	
										Feet.	°	°	°	In.
Fort Bliss, Tex	110	115	9	124	1,127.27	3.24	29.44	....	1	3,600	62.9	107	9	3.34
Fort Brown, Tex	62	39	10	49	790.32	2.37	38.18	....	....	50	....	....	....	.....
Fort Clark, Tex	335	354	67	421	1,256.72	13.27	39.61	7	5	1,000	....	....	....	.....
Fort Davis, Tex	122	117	36	153	1,254.10	6.13	50.28	5	2	4,928	....	....	....	.....
Camp Del Rio, Tex	4	1	....	1	250.00	.02	6.16	....	....	820	....	....	....	.....
Camp at Eagle Pass, Tex	52	74	19	93	1,788.46	2.56	49.21	1	2	800	69.3	111	18	18.97
Fort Hancock, Tex	49	52	23	75	1,530.61	2.43	49.65	....	1	3,000	59.6	109	−6	3.33
Fort McIntosh, Tex	153	161	32	193	1,261.44	8.41	54.97	2	2	380	71.2	106	27	20.51
Camp Pena Colorado, Tex	46	62	16	78	1,695.65	1.35	29.42	....	....	3,800	59.7	104	1	12.37
Fort Ringgold, Tex	112	111	42	153	1,366.07	5.83	52.05	2	1	521	73.5	105	25	17.03
Fort Sam Houston, Tex	499	795	196	991	1,985.97	28.24	56.59	15	3	781	68.1	104	25	30.04
San Antonio, Headquarters Department of Texas	33	12	....	12	363.64	.50	15.11	....	....	781	68.1	104	25	30.04
Field	67	40	23	63	940.30	.73	10.92	....	1	....	....	....	....	.....
Total	1,644	1,933	473	2,406	1,463.50	75.09	45.68	32	18	....	....	....	....	.....

DEPARTMENT OF CALIFORNIA.

Alcatraz Island, Cal	113	97	27	124	1,097.35	5.44	48.15	2	2	136	54.3	95	35	25.01
Angel Island, Cal	203	228	38	266	1,310.34	10.16	50.04	9	2	....	56.5	91	32	22.96
Benicia Arsenal, Cal	51	36	8	44	862.74	1.02	19.99	....	....	64	....	....	....	.....
Benicia Barracks, Cal	90	63	21	84	933.33	2.17	24.14	3	....	64	....	....	....	.....
Fort Bidwell, Cal	26	16	6	22	846.15	.59	22.76	....	....	4,680	....	....	....	.....
Fort Gaston, Cal	55	27	11	38	690.90	1.04	18.83	....	....	397	54.9	109	25	64.33
Fort Mason, Cal	62	38	14	52	838.71	1.88	30.27	2	....	113	57.4	94	34	22.79
Presidio of San Francisco, Cal	448	476	162	638	1,424.11	24.58	54.88	5	3	69	56.6	100	37	21.11
Field	60	60	14	74	1,233.33	2.22	37.08	....	1	....	....	....	....	.....
Total	1,108	1,041	301	1,342	1,211.19	49.10	44.32	21	8	....	....	....	....	.....

DEPARTMENT OF THE COLUMBIA.

Boise Barracks, Idaho	111	77	26	103	927.93	3.83	34.48	3	1	2,830	49.5	109	0	13.31
Fort Canby, Wash	100	137	36	173	1,730.00	4.72	47.15	3	....	179	51.0	87	20	72.01
Fort Sherman, Idaho	281	194	53	247	879.00	7.16	25.50	5	5	2,198	48.3	98	−12	26.69
Fort Spokane, Wash	155	74	34	108	696.77	3.87	24.99	3	....	1,600	49.0	104	−9	12.34
Fort Townsend, Wash	64	37	11	48	750.00	1.40	21.92	....	1	135	49.0	89	20	34.99
Vancouver Barracks, Wash	429	288	78	361	841.49	14.38	33.51	12	4	50	52.9	103	19	44.49
Fort Walla Walla, Wash	244	228	64	292	1,196.72	12.77	52.32	5	1	1,018	54.2	108	2	16.11
Field	28	9	16	25	892.86	.39	13.89	....	....	....	....	....	....	.....
Total	1,412	1,044	313	1,357	961.05	48.52	34.36	31	12	....	....	....	....	.....

TABLE IV.—*A general view of the results of disease and injury at each of the various military stations, arranged in the order of their mean strength.*

GROUP 1.—Thirteen stations, garrisoned by 400 to 700 men each. Average, 487.

Military stations.	Mean strength.	Admissions.		Constantly non-effective.		Deaths.		Discharges.	
		No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.
Fort Leavenworth, Kans	704	745	1,058.24	25.56	36.32	3	4.26	8	11.36
Fort Riley, Kans	600	845	1,408.33	34.91	58.18	9	15.00	17	28.33
Columbus Barracks, Ohio	586	1,295	2,209.89	45.20	77.13	6	10.24	14	23.89
Davids Island, N. Y	547	1,031	1,884.82	28.24	51.62	1	1.83	3	5.48
Fort Sam Houston, Tex	499	991	1,985.97	28.24	56.59	3	6.01	15	30.06
Presidio, San Francisco, Cal	448	638	1,424.11	24.58	54.88	3	6.70	5	11.16
Jefferson Barracks, Mo	438	468	1,068.49	15.16	34.62	3	6.85	7	15.98
Fort Monroe, Va	437	603	1,379.86	14.08	32.23	3	6.87	6	13.73
Vancouver Barracks, Wash	429	361	841.49	14.38	33.51	4	9.32	12	27.97
Fort Omaha, Nebr	418	516	1,234.45	17.03	40.74	2	4.78	9	21.53
Fort Douglas, Utah	416	425	1,021.64	14.42	34.67	7	16.83	4	9.62
Fort Assiniboine, Mont	407	453	1,113.02	12.33	30.29	5	12.29	7	17.20
Fort Robinson, Nebr	404	858	2,123.76	17.44	43.16	4	9.90	5	12.38
Summary	6,833	9,229	1,457.29	291.58	46.04	53	8.37	112	17.69

GROUP 2.—Seventeen stations, garrisoned by 300 to 400 men each. Average, 337.

Fort Niobrara, Nebr	396	692	1,747.47	17.11	43.21	3	7.58	4	10.10
Fort D. A. Russell, Wyo	377	328	870.02	9.64	25.57	.....	.....	4	10.61
West Point, N. Y	373	366	981.23	9.50	25.46	2	5.36	4	10.72
Willets Point, N. Y	363	460	1,267.22	10.40	28.64	2	5.51	5	13.77
Fort Meade, S. Dak	360	670	1,861.11	16.93	47.04	2	5.56	8	22.22
Fort Custer, Mont	346	687	1,985.56	20.56	59.43	1	2.89	5	14.45
Fort Wingate, N. Mex	340	604	1,776.47	14.51	42.68	.....	.....	4	11.76
Fort Keogh, Mont	338	449	1,328.40	13.70	40.53	1	2.96	3	8.87
Fort Clark, Tex	335	421	1,256.72	13.27	39.61	5	14.93	7	20.90
Fort Snelling, Minn	331	392	1,184.29	12.84	38.79	3	9.06	8	24.17
Fort McPherson, Ga	319	764	2,394.98	19.50	61.12	3	9.40	16	50.16
Fort Bayard, N. Mex	318	406	1,276.73	16.08	50.56	2	6.29	8	25.16
Madison Barracks, N. Y	316	483	1,528.48	10.19	32.24	2	6.33	1	3.16
Washington Barracks, D. C	310	550	1,774.19	14.76	47.61	2	6.45	11	35.49
Fort Sheridan, Ill	308	396	1,285.72	10.99	35.67	5	16.23	5	16.23
Fort Sill, Okla	304	592	1,947.37	13.88	45.67	2	6.58	4	13.16
Fort Reno, Okla	302	668	2,211.92	17.97	59.47	5	16.56	4	13.24
Summary	5,736	8,928	1,556.49	241.82	42.16	40	6.97	101	19.18

TABLE IV.—*A general view of the results of disease and injury at each of the various military stations, etc.*—Continued.

GROUP 3.—Seventeen stations garrisoned by 200 to 300 men each. Average, 241.

Military stations.	Mean strength.	Admissions.		Constantly non-effective.		Deaths.		Discharges.	
		No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.
Fort Grant, Ariz	289	335	1,159.17	10.09	34.91	3	10.38	5	17.30
Fort Logan, Colo	287	456	1,588.85	22.09	76.98	17	59.23	3	10.45
Fort Sherman, Idaho	281	247	879.00	7.16	25.50	5	17.79	5	17.79
Fort McKinney, Wyo	277	354	1,277.98	10.93	39.46	6	21.66	1	3.61
Fort Hamilton, N. Y	249	580	2,329.32	13.07	52.50	1	4.02	10	40.16
Fort Columbus, N. Y	246	210	853.66	7.49	30.45	2	8.13	.....	.....
Fort Walla Walla, Wash	244	292	1,196.72	12.77	52.32	1	4.10	5	20.49
Fort Adams, R. I	242	266	1,099.17	8.11	33.52	2	8.26	.....	.....
Whipple Barracks, Ariz	242	299	1,235.54	11.92	49.25	.....	.....	13	53.72
Fort Wayne, Mich	241	287	1,190.87	10.73	44.52	1	4.15	6	24.90
Fort Yates, N. Dak	230	279	1,213.04	12.20	53.03	4	17.39	3	13.04
San Carlos, Ariz	221	290	1,312.22	10.03	45.37	1	4.52	3	13.57
Fort Apache, Ariz	218	515	2,362.38	13.58	62.27	2	9.17	4	18.35
Fort Supply, Ind. T	218	260	1,192.66	6.84	31.39	.....	.....	3	13.76
Fort Du Chesne, Utah	207	347	1,676.33	6.59	31.86	.....	.....	2	9.66
Fort Huachuca, Ariz	206	124	601.94	3.99	19.39	2	9.71	2	9.71
Angel Island, Cal	203	266	1,310.34	10.16	50.04	2	9.85	9	44.33
Summary	4,101	5,407	1,318.46	177.76	43.34	49	11.95	74	18.04

GROUP 4.—Thirty stations garrisoned by 100 to 200 men each. Average, 121.

Fort Sidney, Nebr	191	235	1,230.37	7.96	41.70	3	15.71	2	10.47
Fort Missoula, Mont	186	183	983.87	3.89	20.90	1	5.38	3	16.13
Fort Myer, Va	173	184	1,063.58	6.22	35.98	1	5.78	1	5.78
Fort Buford, N. Dak	164	130	792.68	4.34	26.48	.....	.....	3	18.29
Mount Vernon Barracks, Ala	161	208	1,291.93	9.11	56.59	1	6.21	1	6.21
Fort Wadsworth, N. Y	159	243	1,528.30	5.05	31.77	1	6.29	5	31.45
Fort Spokane, Wash	155	108	696.77	3.87	24.99	.....	.....	3	19.35
Fort McIntosh, Tex	153	193	1,261.44	8.41	54.97	2	13.07	2	13.07
Fort Washakie, Wyo	152	131	861.84	3.56	23.41	1	6.58	1	6.58
Fort Niagara, N. Y	146	118	808.22	2.59	17.72	.....	.....	2	13.70
Fort Sully, S. Dak	142	205	1,443.66	5.82	41.00	.....	.....	1	7.04
Fort McHenry, Md	136	198	1,455.88	8.21	60.34	1	7.35	6	44.12
Fort Thomas, Ky	132	185	1,401.52	4.33	32.77	2	15.15	6	45.45
Fort Stanton, N. Mex	131	187	1,427.48	4.41	33.63	2	15.27	.....	.....
Fort Bowie, Ariz	124	145	1,169.36	4.43	35.73	.....	.....	.....	.....
Fort Davis, Tex	122	153	1,254.10	6.13	50.28	2	16.39	5	40.98
Fort Brady, Mich	116	93	801.72	1.96	16.89	.....	.....	.....	.....
Alcatraz Island, Cal	113	124	1,097.35	5.44	48.15	2	17.70	2	17.70
Fort Ringgold, Tex	112	153	1,366.07	5.83	52.05	1	8.93	2	17.86
Boise Barracks, Idaho	111	103	927.93	3.83	34.48	1	9.01	3	27.03
Fort Bliss, Tex	110	124	1,127.27	3.24	29.44	1	9.09	.....	.....
Fort Mackinac, Mich	110	138	1,254.55	3.24	29.44	1	9.09	2	18.18
Leavenworth Prison, Kans	109	89	816.51	2.78	25.54	.....	.....	5	45.87
Fort Barrancas, Fla	108	284	2,629.63	11.16	103.33	1	9.26	1	9.26
St. Francis Barracks, Fla	107	334	3,121.50	5.93	55.43	3	28.04	3	28.04
Fort Porter, N. Y	106	111	1,047.17	3.09	29.18	.....	.....	2	18.87
Jackson Barracks, La	105	186	1,771.43	7.21	68.70	2	19.05	4	38.09
Camp Poplar River, Mont	101	90	891.10	1.90	18.85	.....	.....	.....	.....
Fort Warren, Mass	101	71	702.97	3.22	31.87	.....	.....	1	9.90
Fort Canby, Wash	100	173	1,730.00	4.72	47.15	.....	.....	3	30.00
Summary	3,936	4,879	1,239.58	151.89	38.59	29	7.37	69	17.53

TABLE IV.—*A general view of the results of disease and injury at each of the various military stations, etc.*—Continued.

GROUP 5.—Forty-seven stations garrisoned by 1 to 100 men each. Average, 47.

Military stations.	Mean strength.	Admissions.		Constantly non-effective.		Deaths.		Discharges.	
		No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.	No.	Ratio per 1,000.
Fort Schuyler, N. Y.	94	75	797.87	2.80	29.81	1	10.64	3	31.91
Benicia Barracks, Cal.	90	84	933.33	2.17	24.14	.....	.....	3	33.33
Fort Randall, S. Dak.	82	82	1,000.00	2.60	31.67	1	12.20	1	12.20
Fort Bennett, N. Dak.	81	50	617.28	1.59	19.61	.....	.....	.....	.....
Fort Shaw, Mont.	78	125	1,602.56	3.77	48.30	2	25.64	1	12.82
Fort Preble, Me.	66	60	909.09	1.09	16.52	1	15.15	.....	.....
San Diego Barracks, Cal.	65	82	1,261.54	5.86	90.15	.....	.....	5	76.92
Fort Trumbull, Conn.	65	50	769.23	1.47	22.55	.....	.....	.....	.....
Plattsburg Barracks, N. Y.	64	80	1,250.00	2.41	37.63	2	31.25	.....	.....
Rock Island Arsenal, Ill.	64	70	1,093.75	.99	15.50	1	15.62	.....	.....
Fort Townsend, Wash.	64	48	750.00	1.40	21.92	1	15.62	.....	.....
Fort Abraham Lincoln, N. Dak.	63	56	888.89	1.66	26.35	.....	.....	.....	.....
Newport Barracks, Ky.	63	81	1,285.72	2.06	32.75	.....	.....	1	15.87
Fort Brown, Tex.	62	49	790.32	2.37	38.18	.....	.....	.....	.....
Fort Mason, Cal.	62	52	838.71	1.88	30.27	.....	.....	2	32.26
Watervliet Arsenal, N. Y.	59	70	1,186.44	2.84	48.15	.....	.....	1	16.95
Fort Yellowstone, Wyo.	59	61	1,033.90	2.08	35.20	1	16.95	1	16.95
Fort Thomas, Ariz.	58	105	1,810.34	1.95	33.59	2	34.48	.....	.....
Fort Ontario, N. Y.	57	87	1,526.31	1.84	32.30	.....	.....	3	52.63
Fort Wood, N. J.	56	11	196.43	.04	.73	.....	.....	.....	.....
Fort Gaston, Cal.	55	38	690.90	1.04	18.83	.....	.....	.....	.....
Camp Pilot Butte, Wyo.	55	60	1,090.91	1.30	23.66	1	18.18	1	18.18
Chicago, Ill.	52	10	192.31	.62	11.85	.....	.....	1	19.23
Camp at Eagle Pass, Tex.	52	93	1,788.46	2.56	49.21	2	38.46	1	19.23
Benicia Arsenal, Cal.	51	44	862.74	1.02	19.99	.....	.....	.....	.....
Camp Oklahoma, Okla.	51	85	1,666.67	2.48	48.56	1	19.61	.....	.....
Fort Hancock, Tex.	49	75	1,530.61	2.43	49.65	1	20.41	.....	.....
Camp Pena Colorado, Tex.	46	78	1,695.65	1.35	29.42	.....	.....	.....	.....
Sandy Hook, N. J.	44	70	1,590.91	.71	16.07	1	22.73	.....	.....
Fort Lewis, Colo.	43	25	581.39	1.05	24.47	.....	.....	.....	.....
Frankford Arsenal, Pa.	38	47	1,236.84	1.31	12.58	1	26.32	.....	.....
Fort Pembina, N. Dak.	33	13	393.94	.18	5.40	.....	.....	.....	.....
San Antonio, Tex.	33	12	363.64	.50	15.11	.....	.....	.....	.....
Allegheny Arsenal, Pa.	30	34	1,133.33	.82	27.40	.....	.....	.....	.....
Watertown Arsenal, Mass.	29	15	517.24	.52	18.04	.....	.....	.....	.....
Springfield Armory, Mass.	27	14	518.52	.18	6.59	.....	.....	.....	.....
Fort Bidwell, Cal.	26	22	846.15	.59	22.76	.....	.....	.....	.....
Indianapolis Arsenal, Ind.	25	42	1,680.00	.75	30.03	.....	.....	.....	.....
Augusta, Ga.	22	13	590.91	.43	19.67	.....	.....	1	45.45
Camp at Guthrie, Okla.	20	27	1,350.00	.84	42.05	.....	.....	1	50.00
Fort Union, N. Mex.	19	5	263.15	.22	11.68	.....	.....	.....	.....
Fort Marcy, N. Mex.	16	24	1,500.00	.62	38.87	1	62.50	.....	.....
St. Louis, Mo.	14	4	285.71	.10	7.44	.....	.....	.....	.....
Fort Lowell, Ariz.	13	6	461.54	.26	20.23	.....	.....	.....	.....
Columbia Arsenal, Tenn.	12	47	3,916.66	.93	77.86	1	83.33	.....	.....
Kennebec Arsenal, Me.	12	12	1,000.00	.07	5.94	.....	.....	.....	.....
Camp Del Rio, Tex.	4	1	250.00	.02	6.16	.....	.....	.....	.....
Summary	2,228	2,294	1,031.94	65.78	29.59	21	9.45	26	11.70

GROUP 6.—Field.

Department of the Platte	385	521	1,353.25	8.90	23.12	5	12.99	.....	.....
Department of Dakota	274	245	894.16	3.59	13.09	2	7.30	1	3.65
Department of Texas	67	63	940.30	.73	10.92	1	14.92	.....	.....
Department of California	60	74	1,233.33	2.22	37.08	1	16.67	.....	.....
Department of the Missouri	52	51	980.77	.59	11.27	.....	.....	.....	.....
Department of the Columbia	28	25	892.86	.39	13.89	.....	.....	.....	.....
Department of Arizona	22	14	636.37	.24	10.83	.....	.....	.....	.....
Department of the East	11	11	1,000.00	.13	11.46	1	90.91	.....	.....
Summary	899	1,004	1,116.80	16.78	18.12	10	11.12	1	1.11
Hot Springs, Ark.	41	16	390.24	31.82	776.21	1	24.39	29	707.32
At large	.....	.....	.....	.....	.....	10	.....	44	.....
Total for the Army	23,269	31,757	1,364.78	977.43	42.01	213	.....	456	.....

TABLE IV.—*A general view of the results of diseases and injury at each of the various military stations, etc.*—Continued.

SUMMARY OF THE SIX GROUPS.

Range of the several means in each group.	Number of posts in each group and average strength of each.		Mean strength.	Ratios per 1,000 of mean strength.				Daily average sick.	
	No.	Average strength.		Admissions.	Constantly non-effective.	Deaths.	Discharges.	All posts.	Average for each post.
Group 1, 400 to 700 men	13	487	6,333	1,457.29	46.04	8.37	17.69	291.56	22.43
Group 2, 300 to 400 men	17	337	5,736	1,556.49	42.16	6.97	19.18	241.82	14.22
Group 3, 200 to 300 men	17	241	4,101	1,318.46	43.34	11.95	18.04	177.66	10.45
Group 4, 100 to 200 men	30	131	3,936	1,239.58	38.50	7.37	17.53	151.89	5.06
Group 5, 1 to 100 men	47	47	2,223	1,031.94	29.59	9.45	11.70	65.78	1.40
Group 6, field	.....	.....	899	1,116.80	18.12	11.12	1.11	16.78	.....

TABLE V.—*Twenty posts having the highest admission rates for the year 1891; also their admission rates for the years 1886 to 1890, inclusive.*

Names of stations.	Mean strength.	Ratios per 1,000 of mean strength.				Admission rates per 1,000 of mean strength.				
		Admissions.	Deaths.	Discharges for disability.	Constantly non-effective.	1890.	1889.	1888.	1887.	1886.
St. Francis Barracks, Fla.	107	3,121.50	28.04	28.04	55.43	2,015.38	1,568.97	1,378.79	1,718.75	1,942
Fort Barrancas, Fla	108	2,629.63	9.26	9.26	103.33	1,674.42	1,360.66	1,109.09	1,037.04	1,407
Fort McPherson, Ga	319	2,394.98	9.40	50.16	61.12	2,489.36	3,416.67	.....	.....	.....
Fort Apache, Ariz	218	2,362.38	9.17	18.35	62.27	2,371.90	1,029.41	933.67	968.42	1,934
Fort Hamilton, N. Y	249	2,329.32	4.02	40.16	52.50	1,626.26	1,552.63	1,107.14	1,102.86	956
Fort Reno, Okla	302	2,211.92	16.56	13.24	59.47	1,922.30	1,474.51	1,378.55	1,607.97	1,543
Columbus Barracks, Ohio	586	2,209.89	10.24	23.89	77.13	1,876.49	2,318.86	2,075.66	1,942.36	1,559
Fort Robinson, Nebr	404	2,123.76	9.90	12.38	43.16	1,895.67	1,454.33	925.56	1,283.08	1,593
Fort Sam Houston, Tex.	499	1,985.97	6.01	30.06	56.59	2,430.69	1,262.61	943.60	1,570.67	1,192
Fort Custer, Mont	346	1,985.56	2.89	14.45	59.43	1,380.66	1,266.86	1,245.33	931.13	1,128
Fort Sill, Okla	304	1,947.37	6.58	13.16	45.67	2,551.52	1,797.10	1,592.06	1,744.08	1,642
Davids Island, N. Y	547	1,884.82	1.83	5.48	51.62	1,642.8	1,259.07	1,533.12	1,437.28	1,733
Fort Meade, S. Dak	360	1,861.11	5.56	22.22	47.04	853.90	1,312.14	1,121.72	1,935.06	1,544
Fort Thomas, Ariz	58	1,810.34	34.48	.....	33.59	1,481.13	1,079.21	1,632.08	1,733.77	1,124
Camp at Eagle Pass, Tex.	52	1,788.46	38.46	19.23	49.21	2,053.57	1,145.45	788.46	821.43	1,123
Fort Wingate, N. Mex	340	1,776.47	.....	11.76	42.68	1,788.30	1,036.46	955.41	1,424.62	1,538
Washington Barracks, D. C	310	1,774.19	6.45	35.49	47.61	1,329.41	1,139.44	1,723.48	1,767.79	1,821
Jackson Barracks, La	105	1,771.43	19.05	38.09	68.70	2,163.04	1,875.00	910.45	884.61	987
Fort Niobrara, Nebr	396	1,747.47	7.58	10.10	43.21	1,468.25	1,354.33	1,409.22	834.78	1,077
Fort Canby, Wash	100	1,730.00	.....	30.00	47.15	1,126.98	1,607.14	.....	989.70	671
U. S. Army	23,269	1,364.78	8.05	17.23	42.01	1,384.25	1,315.02	1,270.73	1,248.88	1,263

TABLE VI.—*Twenty posts having the highest non-effective rates for the year 1891; also their non-effective rates for the years 1886 to 1890, inclusive.*

Names of stations.	Mean strength.	Constantly non-effective per 1,000 mean strength.	Average sick daily.	Average of days each case was treated.	Constantly non-effective per 1,000 of mean strength.				
					1890.	1889.	1888.	1887.	1886.
Fort Barrancas, Fla	108	103.83	11.16	14.34	58.49	48.42	38.98	84.06	38
San Diego Barracks, Cal	65	90.15	5.86	26.09	122.48	77.07	53.87	54.31	96
Columbus Barracks, Ohio	586	77.13	45.20	12.72	77.55	92.74	81.87	74.51	63
Fort Logan, Colo	287	76.98	22.09	17.68	58.49	70.78	76.95	26.03	.....
Jackson Barracks, La	105	68.70	7.21	14.16	70.64	35.75	17.78	19.07	28
Fort Apache, Ariz	218	62.27	13.58	9.62	55.51	36.53	27.00	40.14	41
Fort McPherson, Ga	319	61.12	19.50	9.32	61.16	72.80	.....	.....	.....
Fort McHenry, Md	136	60.34	8.21	15.13	63.73	53.71	62.99	59.67	30
Fort Reno, Okla	302	59.47	17.97	9.82	56.53	61.55	46.85	46.81	37
Fort Custer, Mont	346	59.43	20.56	10.93	57.91	49.72	49.58	47.81	46
Fort Riley, Kans	600	58.18	34.91	15.08	36.45	39.28	51.36	44.07	42
Fort Sam Houston, Tex	499	56.59	28.24	10.40	63.25	50.64	38.41	51.59	39
Mount Vernon Barracks, Ala	161	56.59	9.11	15.99	68.57	54.86	37.82	36.71	41
St. Francis Barracks, Fla	107	55.43	5.93	6.48	66.76	32.40	34.57	40.95	44
Fort McIntosh, Tex	153	54.97	8.41	15.91	25.31	53.75	62.23	58.38	41
Presidio of San Francisco, Cal	448	54.88	24.58	14.06	45.96	60.60	54.43	32.64	34
Fort Yates, N. Dak	230	53.03	12.20	15.96	51.14	42.43	41.05	37.81	30
Fort Hamilton, N. Y	249	52.50	13.07	8.23	41.91	41.40	29.11	32.31	18
Fort Walla Walla, Wash	244	52.32	12.77	15.96	47.71	42.78	45.90	28.98	32
Fort Ringgold, Tex	112	52.05	5.83	13.91	26.61	23.34	35.44	50.38	50
U. S. Army	23,269	42.01	977.43	11.23	42.71	44.12	41.91	42.38	39

TABLE VII.—*Twenty posts having the highest admission rates for disease, excluding venereal diseases, vaccina, and alcoholism, together with their ratios for deaths, discharges, and constant non-effectiveness; also, the corresponding average rates of the Army, year 1891.*

Names of stations.	Mean strength.	Ratios per 1,000 of mean strength.			
		Admissions.	Deaths.	Discharges.	Constantly non-effective.
St. Francis Barracks, Fla	107	2,242.98	18.69	28.04	32.75
Fort Barrancas, Fla	108	1,851.85	.....	9.26	74.71
Fort Hamilton, N. Y	249	1,799.20	.....	32.13	34.43
Fort Apache, Ariz	218	1,766.08	4.59	13.76	40.96
Fort McPherson, Ga	319	1,764.89	6.27	25.09	35.23
Fort Reno, Okla	302	1,745.03	13.24	6.62	41.90
Fort Sill, Okla	304	1,578.95	3.29	9.87	34.83
Fort Robinson, Nebr	404	1,561.88	2.48	7.43	26.97
Fort Custer, Mont	346	1,468.22	2.89	14.45	41.42
Fort Thomas, Ariz	58	1,448.28	17.24	.....	26.46
Fort Logan, Colo	287	1,383.28	48.78	10.45	66.94
Fort Sam Houston, Tex	499	1,368.74	6.01	26.06	37.95
Washington Barracks, D. C	310	1,361.30	3.23	32.26	30.37
Fort Meade, S. Dak	360	1,313.90	5.56	8.33	29.82
Columbus Barracks, Ohio	586	1,312.30	8.53	8.53	39.96
Fort Wingate, N. Mex	340	1,294.13	.....	5.88	28.46
Fort Du Chesne, Utah	207	1,251.21	.....	9.66	23.40
Camp at Eagle Pass, Tex	52	1,192.29	19.23	.....	17.60
Fort Canby, Wash	100	1,170.00	.....	30.00	31.52
Madison Barracks, N. Y	316	1,132.91	6.33	3.16	23.09
U. S. Army	23,269	854.53	4.74	12.66	25.99

TABLE VIII.—*Twenty posts having the highest non-effective rates for disease, excluding venereal diseases, vaccina, and alcoholism, together with the average number sick daily, and average duration of each case; also the corresponding average rates of the Army, year 1891.*

Names of stations.	Mean strength.	Ratio per 1,000 constantly non-effective.	Average number of sick daily.	Average number of days each case was treated.
Fort Barrancas, Fla	108	74.71	8.1	14.72
San Diego Barracks, Cal	65	71.99	4.7	32.85
Fort Logan, Colo	287	66.94	19.2	17.06
Fort Reno, Okla	302	41.90	12.7	8.77
Fort Custer, Mont	346	41.42	14.3	10.30
Fort Apache, Ariz	218	40.96	8.9	8.47
Watervliet Arsenal, N. Y	59	40.63	2.4	14.58
Columbus Barracks, Ohio	586	39.96	23.4	11.11
Jackson Barracks, La	105	38.86	4.1	14.65
Fort Sam Houston, Tex	499	37.95	18.9	10.12
Fort Yates, N. Dak	230	36.26	8.3	17.10
Fort McPherson, Ga	319	35.23	11.2	7.29
Fort Sill, Okla	304	34.83	10.6	8.05
Fort Bayard, N. Mex	318	34.59	11.0	13.06
Fort Hamilton, N. Y	249	34.43	8.6	6.98
Fort McHenry, Md	136	32.81	4.5	12.06
St. Francis Barracks, Fla	107	32.75	3.5	5.33
Fort McIntosh, Tex	153	32.73	5.0	15.49
Mount Vernon Barracks, Ala	161	32.54	5.2	13.66
Angel Island, Cal	203	32.02	6.5	12.23
U. S. Army	23,269	25.99	604.9	11.10

TABLE IX.—*The military posts in each department, showing the rates of admission, death, discharge, and constant non-effectiveness for disease, not including venereal diseases, vaccina, nor alcoholism, year 1891.*

DEPARTMENT OF THE EAST.

Names of stations.	Mean strength.	Admission rate per 1,000 of mean strength.	Death rate.	Discharge rate.	Constantly non-effective per 1,000 of mean strength.
Columbia Arsenal, Tenn	12	3,333.34	83.33	.....	57.77
St. Francis Barracks, Fla	107	2,242.98	18.69	28.04	32.75
Fort Barrancas, Fla	108	1,851.85	.....	9.26	74.71
Fort Hamilton, N. Y	249	1,799.20	.....	32.13	34.43
Fort McPherson, Ga	319	1,764.89	6.27	25.09	35.23
Washington Barracks, D. C	310	1,361.30	3.23	32.26	30.37
Columbus Barracks, Ohio	586	1,312.30	8.53	8.53	39.96
Madison Barracks, N. Y	316	1,132.91	6.33	3.16	23.69
Frankford Arsenal, Pa	38	1,131.58	26.32	.....	9.65
Sandy Hook, N. J	44	1,090.91	22.73	.....	8.10
Fort Monroe, Va	437	1,041.19	2.29	13.73	21.34
Fort Wadsworth, N. Y	159	1,025.15	.....	25.16	19.46
Watervliet Arsenal, N. Y	59	1,016.95	.....	16.95	40.63
Jackson Barracks, La	105	1,009.54	9.52	38.09	38.86
Fort McHenry, Md	136	992.64	7.35	36.77	32.81
Newport Barracks, Ky	63	984.13	.....	.....	24.06
Fort Thomas, Ky	132	962.12	7.58	37.88	22.06
Davids Island, N. Y	547	941.50	1.83	3.66	23.02
Kennebec Arsenal, Me	12	916.67	.....	.....	4.57
Fort Ontario, N. Y	57	894.74	.....	17.54	16.97
Mount Vernon Barracks, Ala	161	869.56	6.21	6.21	32.54
Allegheny Arsenal, Pa	30	833.34	.....	.....	15.81
Fort Porter, N. Y	106	811.32	.....	18.87	19.25
Willets Point, N. Y	363	798.91	2.75	11.02	17.65
Plattsburg Barracks, N. Y	64	765.62	15.62	.....	18.49
West Point, N. Y	373	713.15	5.36	.....	12.61
Fort Preble, Me	66	712.13	15.15	.....	11.67
Fort Adams, R. I	242	657.02	4.13	.....	20.77
Fort Myer, Va	173	635.84	5.78	5.78	22.83
Fort Columbus, N. Y	246	585.37	8.13	.....	19.28
Fort Trumbull, Conn	65	553.85	.....	.....	11.13
Augusta Arsenal, Ga	22	500.00	.....	45.45	18.55
Fort Schuyler, N. Y	94	478.72	.....	10.63	8.27
Fort Niagara, N. Y	146	424.64	.....	13.70	9.38
Springfield Armory, Mass	27	407.41	.....	.....	5.67
Watertown Arsenal, Mass	29	379.32	.....	.....	16.44
Fort Warren, Mass	101	316.84	.....	.....	14.85
Fort Wood, N. J	56	160.71	.....	.....	.68
Field	11	454.54	.....	.....	4.98
Department of the East	6,171	1,029.65	4.86	12.31	25.13

TABLE IX.—*The military posts in each department, showing the rates of admission, death, discharge, and constant non-effectiveness for disease, etc.*—Continued.

DEPARTMENT OF THE MISSOURI.

Names of stations.	Mean strength.	Admission rate per 1,000 of mean strength.	Death rate.	Discharge rate.	Constantly non-effective per 1,000 of mean strength.
Fort Reno, Okla	302	1,745.03	13.24	6.62	41.90
Fort Sill, Okla	304	1,578.95	3.29	9.87	34.83
Indianapolis Arsenal, Ind	25	1,520.00	.....	.....	28.38
Camp Oklahoma, Okla	51	1,098.04	.....	.....	28.85
Fort Mackinac, Mich	110	963.64	.....	9.09	21.68
Fort Riley, Kans	600	956.66	1.67	8.33	26.43
Camp at Guthrie, Okla	20	900.00	.....	.....	18.90
Fort Supply, Ind. T	218	894.49	.....	9.17	17.27
Rock Island Arsenal, Ill	64	890.63	.....	.....	12.03
Fort Wayne, Mich	241	817.43	4.15	8.30	26.16
Fort Sheridan, Ill	308	756.49	.....	12.98	17.68
Fort Leavenworth (post), Kans	704	694.60	4.26	9.94	20.34
Fort Leavenworth (prison), Kans	109	688.07	.....	36.70	19.36
Jefferson Barracks, Mo	438	563.92	.....	6.85	15.66
Fort Brady, Mich	116	491.38	.....	.....	9.69
St. Louis (Headquarters), Mo	14	285.71	.....	.....	7.44
Chicago (Headquarters), Ill	52	192.31	.....	19.23	11.85
Field	52	730.77	.....	.....	7.49
Department of the Missouri	3,728	912.27	3.76	9.12	23.03

DEPARTMENT OF DAKOTA.

Fort Custer, Mont	346	1,468.22	2.89	14.45	41.42
Fort Meade, S. Dak	360	1,313.90	5.56	8.33	29.82
Fort Shaw, Mont	78	1,217.95	25.64	12.82	29.37
Fort Sully, S. Dak	142	1,049.30	.....	7.04	25.21
Fort Pembina, N. Dak	33	393.94	.....	.....	5.40
Fort Keogh, Mont	338	908.31	.....	8.87	27.31
Fort Snelling, Minn	331	897.29	.....	18.13	26.88
Fort Assiniboine, Mont	407	791.15	9.83	17.20	17.22
Fort Yates, N. Dak	230	773.91	.....	13.04	36.26
Fort Missoula, Mont	186	720.43	5.38	16.13	12.69
Fort A. Lincoln, N. Dak	63	634.93	.....	.....	17.18
Fort Yellowstone, Wyo	59	593.22	.....	.....	21.92
Camp Poplar River, Mont	101	495.08	.....	.....	9.65
Fort Buford, N. Dak	164	457.32	.....	12.20	17.15
Fort Bennett, N. Dak	81	209.87	.....	.....	10.28
Field	274	616.79	7.30	.....	7.09
Department of Dakota	3,193	896.03	4.07	10.65	23.75

DEPARTMENT OF THE PLATTE.

Fort Robinson, Nebr	404	1,561.88	2.48	7.43	26.97
Fort Logan, Colo	287	1,383.28	48.78	10.45	66.94
Fort Du Chesne, Utah	207	1,251.21	.....	9.66	23.40
Fort Niobrara, Nebr	396	1,126.27	2.53	7.58	25.31
Fort Sidney, Nebr	191	963.34	15.71	5.24	28.79
Fort McKinney, Wyo	277	906.14	18.05	3.61	24.50
Fort Omaha, Nebr	418	901.91	4.78	16.75	25.04
Fort Randall, S. Dak	82	768.28	12.20	.....	20.22
Fort Douglas, Utah	416	747.59	12.02	4.81	19.86
Camp Pilot Butte, Wyo	55	690.91	.....	18.18	18.73
Fort Washakie, Wyo	152	559.21	.....	6.58	11.54
Fort D. A. Russell, Wyo	377	450.93	.....	10.61	13.25
Fort Lewis, Colo	43	395.35	.....	.....	14.97
Field	385	1,067.54	7.79	.....	14.09
Department of the Platte	3,690	986.46	9.49	7.59	24.80

TABLE IX.—*The military posts in each department, showing the rates of admission, death, discharge, and constant non-effectiveness for disease, etc.*—Continued.

DEPARTMENT OF TEXAS.

Names of stations.	Mean strength.	Admission rate per 1,000 of mean strength.	Death rate.	Discharge rate.	Constantly non-effective per 1,000 of mean strength.
Fort Sam Houston, Tex	499	1,368.74	6.01	26.06	37.95
Camp at Eagle Pass, Tex	52	1,192.29	19.23	.....	17.00
Camp Pena Colorado, Tex	46	1,108.70	.....	.....	13.46
Fort Hancock, Tex	49	1,040.81	.....	.....	27.29
Fort Clark, Tex	335	928.36	11.95	8.96	28.50
Fort Ringgold, Tex	112	883.94	.....	17.86	27.16
Fort Davis, Tex	122	844.27	.....	40.98	36.29
Fort Bliss, Tex	110	781.80	.....	.....	19.13
Fort McIntosh, Tex	153	771.25	13.07	13.07	32.73
Fort Brown, Tex	62	499.99	.....	.....	27.17
San Antonio, Tex	33	333.34	.....	.....	14.00
Camp Del Rio, Tex	4	250.00	.....	.....	6.16
Field	67	522.39	.....	.....	*6.79
Department of Texas	1,644	988.78	6.08	15.20	29.15

DEPARTMENT OF ARIZONA.

Fort Apache, Ariz	218	1,766.08	4.59	13.76	40.96
Fort Thomas, Ariz	58	1,448.28	17.24	.....	28.46
Fort Marcy, N. Mex	16	1,375.00	62.50	.....	38.19
Fort Wingate, N. Mex	340	1,294.13	.....	5.88	28.46
Fort Stanton, N. Mex	131	1,076.33	15.27	.....	25.70
Fort Bayard, N. Mex	318	968.56	6.29	18.87	34.59
San Carlos, Ariz	221	963.80	4.52	13.57	31.06
Fort Grant, Ariz	289	802.77	6.92	13.84	21.49
San Diego Barracks, Cal	65	800.02	.....	76.92	71.99
Whipple Barracks, Ariz	242	685.95	.....	28.92	18.37
Fort Bowie, Ariz	124	677.43	.....	.....	19.73
Fort Huachuca, Ariz	206	378.65	.....	9.71	14.44
Fort Union, N. Mex	19	105.26	.....	.....	7.79
Fort Lowell, Ariz	13	76.92	.....	.....	16.23
Field	22	363.65	.....	.....	4.98
Department of Arizona	2,282	971.08	4.38	15.02	27.76

DEPARTMENT OF CALIFORNIA.

Angel Island, Cal	203	955.67	4.93	24.63	32.62
Presidio, San Francisco, Cal	448	899.56	.....	8.93	29.67
Alcatraz Island, Cal	113	752.22	.....	17.70	26.96
Benicia Arsenal, Cal	51	647.06	.....	.....	14.25
Fort Bidwell, Cal	26	615.38	.....	.....	14.12
Benicia Barracks, Cal	90	577.78	.....	22.22	13.05
Fort Mason, Cal	62	548.38	.....	16.13	15.66
Fort Gaston, Cal	55	436.36	.....	.....	8.77
Field	60	866.67	.....	.....	19.27
Department of California	1,108	804.97	.90	12.64	24.75

DEPARTMENT OF THE COLUMBIA.

Fort Canby, Wash	100	1,170.00	.....	30.00	31.22
Fort Walla Walla, Wash	244	758.20	.....	.....	18.84
Boise Barracks, Idaho	111	639.64	9.01	18.02	24.62
Fort Sherman, Idaho	281	572.96	3.56	7.11	17.79
Vancouver Barracks, Wash	429	543.14	6.99	25.64	22.39
Fort Towsend, Wash	64	437.50	15.62	.....	9.68
Fort Spokane, Wash	155	374.20	.....	12.90	13.35
Field	28	285.72	.....	.....	4.90
Department of the Columbia	1,412	609.79	4.25	14.16	19.72

TABLE X.—*The monthly prevalence of disease among the white, colored, and Indian troops in the Army during the year 1891.*

Months.		Mean strength.	Admitted to sick report. Number. Venereal, alcoholism, and injuries.	Admitted to sick report. Number. Other diseases.	Admitted to sick report. Number. All diseases and injuries.	Admitted to sick report. Ratios per 1,000 of mean strength. Venereal, alcoholism, and injuries.	Admitted to sick report. Ratios per 1,000 of mean strength. Other diseases.	Admitted to sick report. Ratios per 1,000 of mean strength. All diseases and injuries.	Constantly non-effective. Days. Venereal, alcoholism, and injuries.	Constantly non-effective. Days. Other diseases.	Constantly non-effective. Days. All diseases and injuries.	Constantly non-effective. Ratios per 1,000 of mean strength. Venereal, alcoholism, and injuries.	Constantly non-effective. Ratios per 1,000 of mean strength. Other diseases.	Constantly non-effective. Ratios per 1,000 of mean strength. All diseases and injuries.
Jan.	W.	20,148	540	1,588	2,128	26.80	78.82	105.62	8,431	17,224	25,655	13.50	27.58	41.08
	C.	2,142	72	187	259	33.61	87.30	120.91	1,211	1,799	3,010	18.24	27.09	45.33
	I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	T.	22,290	612	1,775	2,387	27.46	79.63	107.09	9,642	19,023	28,665	13.95	27.53	41.48
Feb.	W.	21,123	533	1,913	2,446	25.23	90.56	115.80	8,091	18,401	26,492	13.68	31.11	44.79
	C.	2,290	77	210	287	33.62	91.70	125.33	1,020	2,083	3,103	15.91	32.49	48.39
	I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	T.	23,413	610	2,123	2,733	26.05	90.68	116.73	9,111	20,484	29,595	13.90	31.25	45.14
Mar.	W.	21,397	580	2,675	3,255	27.11	125.02	152.13	8,925	25,717	34,642	13.46	38.77	52.23
	C.	2,183	68	430	498	31.15	196.98	228.13	1,245	3,100	4,345	18.40	45.81	64.21
	I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	T.	23,580	648	3,105	3,753	27.48	131.68	159.16	10,170	28,817	38,987	13.91	39.42	53.34
Apr.	W.	21,432	550	1,967	2,517	25.66	91.78	117.44	7,974	22,081	30,055	12.40	34.34	46.74
	C.	2,125	70	247	317	32.94	116.24	149.18	892	2,503	3,395	13.99	39.26	53.25
	I.	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	T.	23,585	620	2,214	2,834	26.29	93.87	120.16	8,866	24,584	33,450	12.53	34.75	47.28
May.	W.	21,199	630	1,365	1,995	29.72	64.39	94.11	8,366	16,646	25,012	12.73	25.33	38.06
	C.	2,041	69	170	239	33.81	83.29	117.10	837	2,173	3,010	13.23	34.34	47.57
	I.	262	12	23	35	45.80	87.79	133.59	87	157	244	10.71	19.33	30.04
	T.	23,502	711	1,558	2,269	30.25	66.29	96.54	9,290	18,976	28,266	12.75	26.05	38.80
June.	W.	20,949	626	1,286	1,912	29.88	61.39	91.27	8,558	14,073	22,631	13.62	22.39	36.01
	C.	1,964	73	146	219	37.17	74.34	111.51	773	1,832	2,605	13.12	31.09	44.21
	I.	354	10	109	119	28.25	307.91	336.16	71	852	923	6.69	80.23	86.91
	T.	23,267	709	1,541	2,250	30.47	66.23	96.70	9,402	16,757	26,159	13.47	24.01	37.48
July.	W.	20,609	769	1,397	2,166	37.31	67.79	105.10	9,738	14,395	24,133	15.24	22.53	37.77
	C.	2,024	79	154	233	39.03	76.09	115.12	780	1,587	2,367	12.19	24.80	36.99
	I.	430	19	33	52	44.19	76.74	120.93	109	695	804	8.18	52.14	60.32
	T.	23,063	867	1,584	2,451	37.59	68.68	106.27	10,627	16,677	27,304	14.86	23.33	38.19
Aug.	W.	20,446	678	1,586	2,264	33.16	77.57	110.73	9,214	15,026	24,240	14.54	23.71	38.24
	C.	2,004	59	164	223	29.44	81.84	111.28	659	1,242	1,901	10.61	19.99	30.60
	I.	445	12	55	67	26.97	123.60	150.56	98	778	876	7.10	56.40	63.50
	T.	22,895	749	1,805	2,554	32.71	78.84	111.55	9,971	17,046	27,017	14.05	24.02	38.07
Sept.	W.	20,601	660	1,432	2,092	32.04	69.51	101.55	8,990	14,871	23,861	14.55	24.06	38.61
	C.	1,991	70	162	232	35.16	81.37	116.52	711	1,230	1,941	11.90	20.59	32.49
	I.	460	16	46	62	34.78	100.00	134.78	139	513	652	10.07	37.17	47.25
	T.	23,052	746	1,640	2,386	32.36	71.14	103.51	9,840	16,614	26,454	14.23	24.02	38.25
Oct.	W.	20,849	661	1,437	2,098	31.70	68.92	100.63	9,870	16,004	25,874	15.27	24.76	40.03
	C.	2,007	78	141	219	38.86	70.25	109.12	903	1,310	2,213	14.51	21.06	35.57
	I.	519	19	65	84	36.61	125.24	161.85	193	491	684	12.00	30.52	42.51
	T.	23,375	758	1,643	2,401	32.43	70.29	102.72	10,966	17,805	28,771	15.13	24.57	39.70
Nov.	W.	21,063	617	1,467	2,084	29.29	69.65	98.94	9,653	15,414	25,067	15.28	24.39	39.67
	C.	2,006	57	197	254	28.41	98.21	126.62	766	1,547	2,313	12.73	25.71	38.43
	I.	520	21	43	64	40.38	82.69	123.08	236	511	747	15.13	32.76	47.88
	T.	23,589	695	1,707	2,402	29.46	72.36	101.83	10,655	17,472	28,127	15.06	24.69	39.75
Dec.	W.	21,089	606	2,407	3,013	28.74	114.14	142.87	9,451	20,753	30,204	14.46	31.74	46.20
	C.	1,989	58	217	275	29.16	109.10	138.26	1,057	1,979	3,036	17.14	32.09	49.24
	I.	535	20	29	49	37.38	54.20	91.59	305	422	727	18.39	25.44	43.83
	T.	23,613	684	2,653	3,337	28.97	112.35	141.32	10,813	23,154	33,967	14.77	31.63	46.40
Year.	W.	20,909	7,450	20,520	27,970	356.31	981.40	1,337.70	107,261	210,605	317,866	14.05	27.60	41.65
	C.	2,064	830	2,425	3,255	402.13	1,174.90	1,577.03	10,854	22,385	33,239	14.41	29.71	44.12
	I.	296	129	403	532	435.81	1,361.49	1,797.30	1,238	4,419	5,657	11.46	40.90	52.36
	T.	23,269	8,409	23,348	31,757	361.38	1,003.40	1,364.78	119,353	237,409	356,762	14.05	27.95	42.01

TABLE XI.—*The rates, per 1,000 of strength, of admission, death, discharge, and non-effectiveness of the U. S. Army, and of the troops in the several departments, for the year 1891, as compared with those of the decade 1880–'89, and of certain foreign armies.*

Names of army or departments.	U. S. Army, 1891.				U. S. Army, white, 1891.				U. S. Army, colored, 1891.				U. S. Army, Indian, 1891.			
Mean strength (corrected for time).	23,269.				20,909.				2,064.				296.			
Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
Enteric fever	3.95	.45	.08	.69	4.11	.42	.08	.74	2.91	.89	.....	.23	.....	.....	.....	.....
Other specific contagious and infectious diseases, including erysipelas	147.11	1.06	.....	3.08	153.23	1.09	.....	3.26	105.62	.89	.....	1.67	3.38	.....	.....	.16
Malarial fevers and resulting conditions	62.23	.11	.08	1.58	64.94	.08	.08	1.65	36.82	.44	.....	1.06	47.30	.....	.....	.66
Typho-malarial fever	.43	.04	.....	.05	.48	.04	.....	.05	.....	.....	.....	.....	.....	.....	.....	.....
Diarrhea, including cholera morbus	104.65	.....	.....	1.05	103.59	.....	.....	1.05	121.12	.....	.....	1.06	64.19	.....	.....	.45
Dysentery	3.57	.08	.....	.15	3.63	.08	.....	.16	2.91	.....	.....	.03	3.38	.....	.....	.03
Other miasmatic diseases	.17	.....	.....	.01	.19	.....	.....	.01	.....	.....	.....	.....	.....	.....	.....	.....
Gonorrhea and results	38.08	.....	.11	2.01	37.88	.....	.13	2.02	38.28	.....	.....	1.97	50.68	.....	.....	1.58
Syphilis and results	14.74	.04	1.63	1.77	14.49	.04	1.55	1.79	17.44	.....	2.67	1.78	13.51	.....	.....	.64
Other venereal diseases	19.64	.....	.....	1.22	18.27	.....	.....	1.15	32.46	.....	.....	1.94	27.03	.....	.....	1.18
Vaccina	62.19	.....	.04	1.94	57.73	.....	.04	1.70	34.88	.....	.....	1.03	567.57	.....	.....	25.04
Other enthetic diseases	2.36	.....	.04	.11	2.44	.....	.04	.12	.97	.....	.....	.03	6.76	.....	.....	.04
Alcoholism	40.01	.23	.04	.45	44.19	.25	.04	.49	3.39	.....	.....	.04	.....	.....	.....	.....
Other dietic diseases	.73	.....	.....	.02	.72	.....	.....	.02	.97	.....	.....	.03	.....	.....	.....	.....
Rheumatism (including muscular)	75.33	.....	1.25	3.93	69.20	.....	1.21	3.70	138.08	.....	1.78	6.49	70.95	.....	.....	2.30
Other constitutional diseases	4.25	.08	.23	.35	4.26	.04	.21	.36	3.39	.44	.44	.29	10.13	.....	.....	.32
Developmental diseases	.43	.....	.87	.08	.48	.....	.92	.09	.....	.....	.44	.....	.....	.....	.....	.....
Parasitic diseases	2.84	.....	.....	.07	3.01	.....	.....	.07	1.45	.....	.....	.05	.....	.....	.....	.....
Headache and neuralgia	46.46	.....	.23	.86	42.76	.....	.25	.85	85.76	.....	.....	.97	33.78	.....	.....	.42
Other diseases of the nervous system	9.20	.38	2.87	.88	9.09	.42	2.97	.87	10.66	.....	1.78	1.17	6.76	.....	3.19	.07
Diseases of the eye	25.10	.....	.87	.79	18.99	.....	.84	.73	84.79	.....	1.33	1.34	40.54	.....	.....	.92
Diseases of the ear	8.38	.....	.30	.31	8.56	.....	.33	.33	4.36	.....	.....	.10	23.65	.....	.....	.31
Catarrhs and common colds	23.51	.....	.....	.23	22.67	.....	.....	.23	34.88	.....	.....	.33	3.38	.....	.....	.03
Bronchitis	98.07	.04	.08	1.75	96.99	.04	.08	1.76	108.53	.....	.....	1.66	101.35	.....	.....	.94
Pneumonia	4.25	.76	.....	.40	3.54	.71	.....	.36	9.69	1.33	.....	.75	16.89	.....	.....	.74
Pulmonary phthisis	2.07	.42	1.59	.87	2.68	.33	1.38	.81	4.84	.89	4.00	1.51	10.14	3.19	.....	1.16
Pleuritis	1.93	.....	.....	.12	1.87	.....	.....	.11	2.42	.....	.....	.16	3.38	.....	.....	.06
Other diseases of the respiratory system	7.52	.04	.11	.30	6.89	.04	.13	.29	13.57	.....	.....	.37	10.13	.....	.....	.61
Diseases of the heart and valves	4.00	.23	.96	.43	4.07	.25	.96	.46	3.39	.....	1.33	.19	3.38	.....	.....	.09
Other diseases of the circulatory system	1.07	.11	.19	.20	1.20	.08	.21	.22	.....	.44	.....	.....	.....	.....	.....	.....
Tonsillitis	41.73	.....	.....	.63	40.51	.....	.....	.68	57.66	.....	.....	.68	16.89	.....	.....	.33

Dyspepsia, colic, and constipation	56.36	.....	.08	.65	53.61	.....	.04	.64	76.55	.....	.44	.72	104.73	.....	.....	1.07
Other diseases of the digestive system	73.70	.72	1.21	1.90	71.93	.79	1.13	1.91	93.99	.....	2.22	2.02	57.43	.....	.....	.45
Diseases of the kidneys	1.72	.23	.11	.19	1.72	.25	.08	.17	1.94	.....	.44	.40	.....	.....	.....	.....
Other diseases of the genito-urinary system (non-venereal)	12.59	.....	.45	.77	12.05	.....	.46	.78	16.96	.....	.44	.67	20.27	.....	.....	.74
Diseases of the locomotor system (excluding muscular rheumatism)	4.17	.04	.64	.42	3.73	.....	.59	.30	9.21	.44	1.33	1.63	.....	.....	.....	.....
Diseases of the integumentary system	80.92	.....	.11	2.13	83.70	.....	.13	2.16	52.33	.....	.....	1.88	84.46	.....	.....	1.93
All other diseases	29.57	.....	.30	1.02	26.83	.....	.33	.99	54.27	.....	.....	1.20	50.68	.....	.....	2.13
Heat stroke	3.05	.....	.....	.06	3.30	.....	.....	.07	.97	.....	.....	.003	.....	.....	.....	.....
Frostbite and general freezing	2.66	.04	.....	.10	1.72	.....	.....	.05	12.60	.44	.....	.66	.....	.....	.....	.....
Contusions and sprains	137.31	.04	.11	3.39	133.58	.04	.13	3.41	169.57	.....	.....	3.12	175.68	.....	.....	3.71
Dislocations	1.89	.....	.19	.17	1.91	.....	.17	.17	.97	.....	.44	.14	6.76	.....	.....	.33
Fractures (not gunshot)	7.78	.19	.60	1.23	8.08	.21	.67	1.26	4.84	.....	.....	.98	6.76	.....	.....	.47
Incised, lacerated, contused, and punctured wounds	50.58	.04	.38	1.52	47.92	.04	.42	1.43	74.61	.....	.....	2.43	70.95	.....	.....	1.36
Shot wounds	2.92	1.25	.87	.93	2.77	1.26	.96	1.00	3.88	.89	.....	.21	6.76	3.19	.....	.85
All other injuries	42.72	1.47	.60	1.20	42.18	1.63	.67	1.20	43.12	.....	.....	1.15	77.70	.....	.....	1.33
Total for disease	1,115.86	5.03	14.47	33.41	1,096.23	4.98	14.23	33.05	1,266.47	5.78	18.66	35.44	1,452.70	3.19	3.19	44.30
Total for injuries	248.91	3.02	2.76	8.60	241.47	3.18	3.01	8.60	310.56	1.33	.44	8.68	344.59	3.19	.....	8.06
Total for all causes	1,364.78	8.05	17.23	42.01	1,337.70	8.16	17.24	41.65	1,577.03	7.11	19.10	44.12	1,797.30	6.39	3.19	52.36

TABLE XI.—*The rates, per 1,000 of strength, of admission, death, discharge, and non-effectiveness of the U. S. Army, and of the troops in the several departments, for the year 1891, as compared with those of the decade 1880–'89, and of certain foreign armies.*

Names of army or departments.	U. S. Army, 1880–'89.				U. S. Army, white, 1880–'89.				U. S. Army, colored, 1880–'89.			
Mean strength (corrected for time).	23,928.				21,612.				2,316.			
Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
Enteric fever	5.17	.74	.04	....	5.42	.76	.04	....	2.81	.63	....	....
Other specific contagious and infectious diseases, including erysipelas	19.25	.16	.02	....	18.34	.16	.03	....	27.80	.16	....	....
Malarial fevers and resulting conditions	152.12	.26	.17	....	152.49	.26	.17	....	148.87	.28	.12	....
Typho-malarial fever	2.11	.24	....	....	2.18	.22	....	....	1.51	.47	....	....
Diarrhea, including cholera morbus	159.21	.08	.28	....	159.61	.08	.28	....	155.53	.04	.33	....
Dysentery	13.61	.20	.20	....	12.32	.18	.20	....	25.65	.32	.20	....
Other miasmatic diseases	.13	.04	....	....	.14	.03	....	....	.09	.08	....	....
Gonorrhea and results	34.52	....	.26	....	34.40	....	.28	....	35.62	....	.06	....
Syphilis and results	36.52	.03	3.57	....	34.87	.03	3.47	....	51.98	.04	4.56	....
Other venereal diseases	8.05	....	.12	....	8.05	....	.11	....	8.12	....	.12	....
Vaccina	12.74	....	....	....	12.72	....	....	....	12.91	....	....	....
Other enthetic diseases	2.44	.004	.01	....	2.34	.004	.01	....	3.45	....	....	....
Alcoholism	54.25	.19	.34	....	59.67	.21	.37	....	3.71	....	.04	....
Other dietic diseases	.58	.05	.05	....	.56	.06	.05	....	.73	....	....	....
Rheumatism (including muscular)	107.28	.05	2.96	....	103.76	.05	2.93	....	140.06	.04	3.24	....
Other constitutional diseases	9.07	.21	.70	....	8.88	.20	.65	....	10.84	.32	1.18	....
Developmental diseases	....	....	....	....	....	....	....	....	....	....	....	....
Parasitic diseases	3.34	....	.004	....	3.54	....	.004	....	1.47	....	....	....
Headache and neuralgia	86.44	....	.38	....	83.66	....	.38	....	112.39	....	.36	....
Other diseases of the nervous system	11.63	.51	3.71	....	11.87	.52	3.77	....	9.28	.43	3.16	....
Diseases of the eye	23.67	....	1.29	....	23.23	....	1.29	....	27.68	....	1.26	....
Diseases of the ear	8.53	.01	.83	....	9.03	.01	.88	....	3.89	....	.39	....
Catarrhs and common colds	86.96	....	.03	....	85.32	....	.03	....	102.20	....	.04	....
Bronchitis	70.43	.08	.57	....	69.31	.09	.59	....	80.83	....	.39	....
Pneumonia	4.86	.86	.15	....	4.54	.75	.14	....	7.82	1.86	.24	....
Pulmonary phthisis	3.51	.56	1.99	....	3.44	.52	1.98	....	4.19	.91	2.17	....
Pleuritis	3.46	.03	.12	....	3.13	.03	.12	....	6.56	.04	.12	....
Other diseases of the respiratory system	8.27	.10	.46	....	7.90	.09	.48	....	11.74	.20	.32	....
Diseases of the heart and valves	3.25	.31	1.54	....	3.33	.32	1.60	....	2.55	.24	1.08	....
Other diseases of the circulatory system	5.01	.32	1.00	....	5.22	.31	1.06	....	3.02	.39	.43	....
Tonsillitis	54.25	....	.01	....	52.41	....	.01	....	71.37	....	....	....
Dyspepsia, colic, and constipation	76.98	....	.25	....	74.64	....	.26	....	98.70	....	.08	....
Other diseases of the digestive system	53.79	.56	2.15	....	53.50	.57	2.18	....	56.43	.42	1.82	....
Diseases of the kidneys	1.35	.20	.27	....	1.35	.20	.26	....	1.34	.20	.36	....
Other diseases of the genito-urinary system (non-venereal)	17.56	.04	1.45	....	17.25	.05	1.41	....	20.33	....	1.86	....
Diseases of the locomotor system (excluding muscular rheumatism)	6.03	.01	1.37	....	6.00	.004	1.33	....	6.26	.08	1.74	....
Diseases of the integumentary system	94.47	.004	.41	....	97.07	.004	.41	....	70.25	....	.39	....
All other diseases	9.67	.04	.96	....	9.65	.05	1.00	....	9.80	.04	.58	....
Heat stroke	1.64	.02	.02	....	1.76	.03	.02	....	.52	....	....	....
Frostbite and general freezing	7.31	.08	.11	....	5.33	.10	.09	....	25.86	.04	.36	....
Contusions and sprains	147.22	.02	.62	....	146.70	.02	.60	....	152.20	.08	.79	....
Dislocations	2.49	.01	.17	....	2.52	.01	.17	....	2.20	....	.16	....
Fractures (not gunshot)	6.76	.13	.77	....	7.01	.12	.80	....	4.40	.16	.43	....
Incised, lacerated, contused, and punctured wounds	43.33	.13	.81	....	41.83	.13	.29	....	57.34	.12	.47	....
Shot wounds	5.09	1.19	1.06	....	4.43	1.09	1.00	....	11.18	2.12	1.55	....
All other injuries	31.75	1.35	.65	....	32.17	1.35	.66	....	27.76	1.30	.63	....
Total for disease	1,250.49	5.89	27.66	....	1,241.13	5.75	27.78	....	1,337.87	7.19	26.57	....
Total for injuries	245.59	2.92	3.72	....	241.75	2.83	3.64	....	281.48	3.83	4.43	....
Total for all causes	1,496.08	8.82	31.37	....	1,482.88	8.58	31.42	....	1,619.34	11.01	30.99	....

TABLE XI.—*The rates, per 1,000 of strength, of admission, death, discharge, and non-effectiveness of the U. S. Army, and of the troops in the several departments, for the year 1891, as compared with those of the decade 1880-'89, and of certain foreign armies.*

Names of army or departments.	Great Britain, 1889.				Italy, 1889.				Prussia, Saxony, Würtemberg, 1888-'89.			
Mean strength (corrected for time).	102,057.				218,917.				420,320.			
Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
Enteric fever	1.39	.24	....	....	4.83	1.27	....	....	3.53	.31	....	....
Other specific contagious and infectious diseases, including erysipelas.	9.51	.11	....	....	21.37	.40	....	....	6.74	.10	....	....
Malarial fevers and resulting conditions	6.47	.01	....	....	28.21	.18	.14	....	3.57	....	....	....
Typho-malarial fever	....	....	....	....	....	....	....	....	....	....	....	....
Diarrhea, including cholera morbus.	6.52	....	....	....	8.11	....	....	....	15.08	....	....	....
Dysentery	.68	.03	.04	....	.05	.02	....	....	.11	....	....	....
Other miasmatic diseases	.06	.04	....	....	.01	.01	....	....	.03	.02	....	....
Gonorrhea and results	97.49	....	.07	....	19.90	....	....	....	14.00	....	....	....
Syphilis and results	92.89	.03	1.05	....	8.62	.01	.02	....	11.11	.01	.01	...
Other venereal diseases	21.72	....	....	....	35.97	....	....	....	1.65	....	....	....
Vaccina	....	....	....	....	....	....	....	....	....	....	....	....
Other enthetic diseases	....	....	....	....	.04	.01	....	....	....	....	....	....
Alcoholism	2.56	....	.01	....	.03	.01	....	....	.20	.01	....	....
Other dietic diseases	.08	....	....	....	.27	.01	....	....	.11	.01	....	....
Rheumatism (including muscular)	35.94	.05	.52	....	17.40	.05	.16	....	33.59	.03	.22	....
Other constitutional diseases	21.31	.14	.59	....	9.07	.33	.68	....	12.89	.05	.34	....
Developmental diseases	7.82	.02	1.07	....	....	.01	.04	....	.10	.01	.57	....
Parasitic diseases	26.27	.02	....	....	3.96	....	....	....	8.21	....	....	....
Headache and neuralgia Other diseases of the nervous system.	8.90	.25	1.78	....	5.54	.43	1.40	....	4.94	.19	.82	....
Diseases of the eye	12.78	....	.82	....	14.59	....	.69	....	27.35	....	.41	....
Diseases of the ear	6.81	.02	.65	....	5.47	.01	.19	....	10.96	....	.33	....
Bronchitis	45.96	.09			35.78	.64	.73	....	45.27	.01		
Pneumonia	5.43	.51			6.15	.89	.21	....	10.96	.44		
Pulmonary phthisis	4.29	1.19	2.89		.97	1.21	1.24	....	2.49	.56		
Pleuritis	2.77	.04	....	....	12.44	.72	1.27	....	4.48	.10	4.50	
Other diseases of the respiratory system, including catarrh and common colds	2.38	.03			1.23	.05	.07	....	21.43	.02		
Diseases of the heart and valves	8.89	.39							1.87	.07		
Other diseases of the circulatory system	2.18	.10	3.33	....	1.11	.14	.71	....	1.21	....	1.78	....
Tonsillitis and other diseases of mouth and throat	61.96	....			12.03	....	....	....	71.99	....		
Other diseases of the digestive system	32.96	.38	.88	....	22.25	.41	2.77	....	45.66	.17	3.96	....
Diseases of the kidneys	.50	.11			.56	.09	.08	....	.46	.09		
Other diseases of the genito-urinary system (non-venereal)	17.57	.03	.52	....	3.40	....	.19	....	6.03	.01	.21	....
Diseases of the locomotor system (excluding muscular rheumatism)	6.82	.05	.61	....	3.83	.08	.74	....	25.28	.02	2.49	....
Diseases of the integumentary system	72.84	....	.35	....	19.08	.04	.18	....	196.59	.01	.09	....
All other diseases	8.16	....	....	....	39.37	.22	.16	....	12.59	.02	....	....
Heat stroke					....	.01			.23	.01		
Frostbite and general freezing					....	....			7.21	.02		
Contusions and sprains					10.01	....			93.95	....		
Dislocations					.25	....			.99	....		
Fractures (not gunshot)	98.52	.69	.71	....	1.04	....	.39	....	2.72	....	.91	....
Incised, lacerated, contused, and punctured wounds					3.66	.01			23.94	.01		
Shot wounds					.29	.32			.60	.31		
All other injuries					4.58	.37			28.76	.57		
Total for disease	631.91	3.88	15.18	....	341.64	7.24	11.67	....	600.48	2.27	15.73	....
Total for injuries	98.52	.69	.71	....	19.83	.71	.39	....	158.41	.92	.91	....
Total for all causes	730.43	4.57	15.89	....	361.47	7.95	12.06	....	758.89	3.19	16.64	....

TABLE XI.—*The rates, per 1,000 of strength, of admission, death, discharge, and non-effectiveness of the U. S. Army, and of the troops in the several departments, for the year 1891, as compared with those of the decade 1880–'89, and of certain foreign armies.*

Names of army or departments.	Department of the East.				Department of the Missouri.				Department of Dakota.			
Mean strength (corrected for time).	6,171.				2,728.				2,193.			
Causes of admission to sick report).	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
Enteric fever	4.86	.49	.16	1.05	3.49	1.34	.....	.34	2.51	.31	.31	.53
Other specific contagious and infectious diseases, including erysipelas	172.73	.32	.....	3.51	133.85	.27	.....	2.13	139.36	1.25	.....	2.75
Malarial fevers and resulting conditions	74.71	....	.16	1.84	146.46	....	.....	3.23	14.41	.31	.....	.63
Typho-malarial fever	.49	.16	.....	.04	.80	....	.....	.12	.....	.....	.....	.....
Diarrhea, including cholera morbus	141.47	....	.....	1.54	88.52	....	.....	.78	94.58	....	.....	.85
Dysentery	2.59	....	.....	.10	6.17	.27	.....	.44	2.51	....	.....	.11
Other miasmatic diseases	.....	....	.....	.....	.27	....	.....	.03	.....	.....	.....	.....
Gonorrhea and results	52.34	....	.49	2.56	35.68	....	.....	1.80	28.50	....	.....	1.53
Syphilis and results	17.18	....	3.24	2.04	18.78	....	1.61	1.71	7.20	....	.31	.57
Other venereal diseases	24.63	....	.....	1.50	23.34	....	.....	1.39	15.03	....	.....	.85
Vaccina	125.42	....	.....	4.31	48.82	....	.....	1.22	42.59	....	.....	.95
Other enthetic diseases	.97	....	.....	.01	3.49	....	.....	.15	1.25	....	.....	.05
Alcoholism	52.67	.49	.....	.59	33.53	....	.....	.43	27.87	....	.....	.35
Other dietic diseases	1.30	....	.....	.04	.....	....	.....	.....	.63	....	.....	.02
Rheumatism (including muscular)	70.33	....	1.30	2.83	65.98	....	.27	2.36	78.30	....	.63	3.54
Other constitutional diseases	4.37	.16	.16	.20	2.15	....	.....	.38	4.38	....	.94	.59
Developmental diseases	.97	....	1.78	.22	.....	....	.80	.....	.63	....	.94	.67
Parasitic diseases	4.05	....	.....	.06	4.02	....	.....	.12	2.19	....	.....	.04
Headache and neuralgia	43.91	....	.....	.66	39.43	....	.54	.79	55.43	....	.....	1.19
Other diseases of the nervous system	9.56	.49	1.46	.87	7.51	....	.80	.55	8.46	.31	.94	.52
Diseases of the eye	17.82	....	.97	.77	17.17	....	.80	.51	24.74	....	1.25	.81
Diseases of the ear	6.97	....	.....	.19	9.39	....	.27	.28	10.02	....	.....	.46
Catarrhs and common colds	30.47	....	.....	.30	18.24	....	.....	.16	17.54	....	.....	.18
Bronchitis	110.03	....	.....	2.05	81.01	....	.....	1.36	124.96	....	.....	2.09
Pneumonia	2.43	.81	.....	.21	3.75	.80	.....	.36	3.76	....	.....	.41
Pulmonary phthisis	4.05	.65	1.62	.90	3.22	.27	2.15	.59	1.88	.31	.94	.31
Pleuritis	1.62	....	.....	.07	1.34	....	.....	.08	2.19	....	.....	.16
Other diseases of the respiratory system	4.86	.16	.16	.14	7.78	....	.....	.31	6.89	....	.....	.21
Diseases of the heart and valves	3.08	.16	.97	.35	2.15	.27	.80	.43	3.13	....	.94	.63
Other diseases of the circulatory system	.97	.32	.32	.13	2.15	....	.27	.29	.31	....	.....	.02
Tonsillitis	40.51	....	.....	.66	31.65	....	.....	.44	49.48	....	.....	.73
Dyspepsia, colic, and constipation	69.02	....	.....	.71	39.43	....	.....	.32	54.81	....	.....	.35
Other diseases of the digestive system	75.18	.81	1.30	1.54	54.45	.27	1.34	1.75	88.01	1.25	1.57	2.33
Diseases of the kidneys	1.62	.32	.16	.13	3.22	.27	.....	.18	.94	.31	.31	.22
Other diseases of the genito-urinary system (non-venereal)	11.18	....	.65	.61	13.41	....	.....	.88	11.27	....	.94	.83
Diseases of the locomotor system (excluding muscular rheumatism)	3.40	....	.49	.22	5.36	....	.80	.47	3.44	....	.94	.33
Diseases of the integumentary system	83.61	....	.16	2.06	103.81	....	.27	2.77	65.46	....	.....	1.51
All other diseases	31.76	....	.49	1.15	12.61	....	.....	.41	23.18	....	.....	.98
Heat stroke	5.19	....	.....	.14	.54	....	.....	.003	1.88	....	.....	.04
Frostbite and general freezing	.32	....	.....	.002	.54	....	.....	.005	9.71	....	.....	.37
Contusions and sprains	134.33	....	.....	3.28	132.78	....	.....	3.20	142.19	....	.....	3.88
Dislocations	1.13	....	.....	.08	1.34	....	.54	.12	2.82	....	.....	.14
Fractures (not gunshot)	6.16	.16	.49	.70	6.97	.27	.54	1.86	7.52	....	.94	.51
Incised, lacerated, contused, and punctured wounds	51.37	....	.65	1.57	38.63	....	.54	1.14	53.24	.31	.....	1.64
Shot wounds	2.43	.49	.16	.32	3.49	1.61	2.95	3.10	2.51	.63	1.57	.86
All other injuries	36.46	1.46	.65	.89	49.62	2.68	1.61	1.34	42.59	1.88	.31	1.04
Total for disease	1,303.19	5.35	16.04	36.17	1,072.42	3.76	10.73	29.58	1,017.85	4.07	10.98	27.[illegible]
Total for injuries	237.40	2.11	1.94	6.99	233.91	4.56	6.17	10.76	262.45	2.82	2.82	[illegible]
Total for all causes	1,540.59	7.45	17.99	43.16	1,306.33	8.32	16.90	40.34	1,280.30	6.89	13.78	[illegible]

TABLE XI.—*The rates, per 1,000 of strength, of admission, death, discharge, and non-effectiveness of the U. S. Army, and of the troops in the several departments for the year 1891, as compared with those of the decade 1880–'89, and of certain foreign armies.*

Names of army or departments.)	Department of the Platte.				Department of Texas.				Department of Arizona.			
Mean strength (corrected for time.	3,690.				1,644.				2,282.			
Causes of admission to sick report).	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
Enteric fever	6.23	.54	.....	.95	4.26	.61	.....	.58	.44	.....	.....	.05
Other specific contagious and infectious diseases, including erysipelas	213.27	4.61	.....	5.64	46.23	1.22	.....	1.19	131.02	.44	.....	2.64
Malarial fevers and resulting conditions	20.60	.27	.....	.39	80.29	.61	.....	2.26	36.81	.....	.....	1.06
Typho-malarial fever	.....	.....	.....	.....	1.22	.....	.....	.09	.44	.....	.....	.10
Diarrhea, including cholera morbus	87.26	.....	.....	.84	135.64	.....	.....	1.26	111.31	.....	.....	1.04
Dysentery	3.79	.....	.....	.03	7.30	.....	.....	.24	2.63	.44	.....	.13
Other miasmatic diseases	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gonorrhea and results	29.54	.....	.....	1.50	41.36	.....	.....	2.25	22.35	.....	.....	1.18
Syphilis and results	14.63	.....	.....	1.79	12.77	.61	1.22	1.87	12.27	.....	2.63	1.08
Other venereal diseases	11.65	.....	.....	.75	28.59	.....	.....	2.20	21.91	.....	.....	1.43
Vaccina	26.02	.....	.....	.58	47.45	.....	.....	.96	56.09	.....	.....	2.42
Other enthetic diseases	3.25	.....	.27	.17	6.08	.....	.....	.52	2.19	.....	.....	.07
Alcoholism	42.27	.27	.....	.43	46.84	.61	.....	.54	28.48	.44	.44	.33
Other dietic diseases	.27	.....	.....	.001	.....	.....	.....	.....	1.75	.....	.....	.04
Rheumatism (including muscular)	88.34	.....	.81	3.26	71.17	.....	.61	2.99	102.10	.....	1.31	4.46
Other constitutional diseases	2.98	.27	.....	.14	5.47	.....	.....	.27	2.63	.....	.44	.33
Developmental diseases	.....	.....	.27	.....	.....	.....	.61	.....	.44	.....	.88	.01
Parasitic diseases	.54	.....	.....	.02	4.26	.....	.....	.11	.88	.....	.....	.01
Headache and neuralgia	44.17	.....	.....	.55	57.78	.....	.61	1.13	66.17	.....	.....	.98
Other diseases of the nervous system	7.86	.54	.54	.62	6.69	.....	3.04	.81	12.27	.....	.44	.98
Diseases of the eye	55.82	.....	1.08	1.03	18.86	.....	1.22	.78	23.66	.....	1.31	.98
Diseases of the ear	5.69	.....	.....	.38	12.16	.....	.61	.49	7.01	.....	.44	.12
Catarrhs and common colds	30.02	.....	.....	.29	13.38	.....	.....	.21	36.37	.....	.....	.38
Bronchitis	86.45	.27	.....	1.33	122.26	.....	.....	2.73	65.73	.....	.....	.91
Pneumonia	10.84	2.17	.....	.73	1.22	.....	.....	.05	5.26	1.31	.....	.82
Pulmonary phthisis	1.63	.54	1.35	.48	4.26	1.22	1.22	1.75	2.19	.....	3.07	2.20
Pleuritis	1.90	.....	.....	.06	2.43	.....	.....	.07	2.63	.....	.....	.23
Other diseases of the respiratory system	11.38	.....	.....	.54	7.30	.....	.61	.28	9.64	.....	.44	.50
Diseases of the heart and valves	3.25	.27	1.63	.29	10.95	1.22	1.82	1.03	4.38	.44	.88	.21
Other diseases of the circulatory system	1.08	.....	.....	.33	1.82	.....	.61	.19	.44	.44	.44	.26
Tonsillitis	60.16	.....	.....	.84	35.89	.....	.....	.49	49.96	.....	.....	.78
Dyspepsia, colic, and constipation	41.46	.....	.....	.42	76.64	.....	.....	1.38	74.93	.....	.44	.89
Other diseases of the digestive system	79.40	.....	.....	1.33	62.04	.61	2.43	2.03	90.71	.88	2.63	2.58
Diseases of the kidneys	1.63	.....	.....	.16	1.22	.61	.....	.09	1.31	.....	.....	.14
Other diseases of the genito-urinary system (non-venereal)	13.01	.....	.27	.61	18.25	.....	1.22	1.07	14.46	.....	.44	.64
Diseases of the locomotor system (excluding muscular rheumatism)	4.61	.....	.54	.21	5.47	.....	.61	.38	4.38	.44	.88	1.19
Diseases of the integumentary system	66.40	.....	.....	2.01	125.31	.....	.....	2.50	56.97	.....	.....	1.91
All other diseases	32.79	.....	.81	1.13	52.92	.....	.....	2.12	51.71	.....	.....	1.18
Heat stroke	1.63	.....	.....	.03	12.16	.....	.....	.15	.88	.....	.....	.02
Frostbite and general freezing	5.96	.27	.....	.28	.....	.....	.....	.....	2.19	.....	.....	.04
Contusions and sprains	134.41	.....	.27	3.10	157.54	.....	.....	3.69	141.98	.44	.44	3.60
Dislocations	1.35	.....	.....	.27	2.43	.....	.....	.10	2.19	.....	.44	.18
Fractures (not gunshot)	9.48	.54	.81	1.19	7.30	.....	1.82	1.31	7.89	.....	.....	.79
Incised, lacerated, contused, and punctured wounds	52.30	.....	.54	1.33	58.39	.....	.....	1.46	63.10	.....	.....	2.06
Shot wounds	3.25	1.90	.81	.77	4.26	3.04	.61	.55	3.51	.88	.44	.50
All other injuries	43.90	1.08	.....	1.29	45.62	.61	.61	1.44	40.76	.44	.88	1.59
Total for disease	1,110.84	9.76	7.59	29.85	1,175.79	7.30	13.42	36.97	1,113.93	4.82	17.09	34.24
Total for injuries	252.30	3.79	2.44	8.26	287.71	3.65	3.04	8.71	262.49	1.75	2.19	8.79
Total for all causes	1,363.14	13.55	10.03	38.11	1,463.50	10.95	19.46	45.68	1,376.42	6.57	19.28	43.03

TABLE XI.—*The rates per 1,000 of strength of admission, death, discharge, and non-effectiveness of the U. S. Army, and of the troops in the several departments, for the year 1891, as compared with those of the decade 1880–'89, and of certain foreign armies.*

Names of army or departments.	Department of California.				Department of the Columbia.			
Mean strength (corrected for time).	1,108.				1,412.			
Causes of admission to sick report.	Admissions.	Deaths.	Discharges.	Constantly non-effective.	Admissions.	Deaths.	Discharges.	Constantly non-effective.
Enteric fever					7.08			1.42
Other specific contagious and infectious diseases, including erysipelas	133.57	.90		2.62	72.95			1.17
Malarial fevers and resulting conditions	59.57			1.30	25.50			.72
Typho-malarial fever	.90			.07				
Diarrhea, including cholera morbus	43.32			.63	58.78			.40
Dysentery	1.80			.02	1.42			.02
Other miasmatic diseases					2.12			.04
Gonorrhea and results	61.37			4.18	30.45			2.01
Syphilis and results	18.95		1.80	3.32	14.16		4.25	2.76
Other venereal diseases	17.15			.88	7.79			.50
Vaccina	9.92			.46	29.74			.68
Other enthetic diseases	4.51			.17				
Alcoholism	25.27			.22	46.74			.80
Other dietic diseases	.90			.01	.71			.01
Rheumatism (including muscular)	60.47		.90	3.89	51.70		1.42	2.21
Other constitutional diseases	11.73			.69	7.79		.71	.58
Developmental diseases					.71		1.42	.17
Parasitic diseases	6.32			.36	.71			.04
Headache and neuralgia	39.71		.90	.80	22.66			.49
Other diseases of the nervous system	7.22			.86	14.16	.71	2.12	1.28
Diseases of the eye	20.76		.90	.60	12.04			.77
Diseases of the ear	18.05		1.80	.72	5.67		1.42	.22
Catarrhs and common colds	9.02			.09	4.96			.03
Bronchitis	112.82			2.31	75.78		.71	1.18
Pneumonia	1.80			.28	1.42	.71		.27
Pulmonary phthisis	2.71		2.71	1.00	3.54	.71	2.83	.53
Pleuritis	.90			.06	3.54			.28
Other diseases of the respiratory system	8.12			.27	6.37			.27
Diseases of the heart and valves	6.32		1.80	.62	6.37		.71	.19
Other diseases of the circulatory system	.90			.15	.71			.09
Tonsillitis	9.93			.14	27.62			.54
Dyspepsia, colic and constipation	55.96			.47	34.70		.71	.75
Other diseases of the digestive system	60.47		2.71	1.92	69.40	1.42	.71	2.65
Diseases of the kidneys	.90			.54	2.12	.71	.71	.20
Other diseases of the genito-urinary system (non-venereal)	10.83			1.02	10.62			.67
Diseases of the locomotor system (excluding muscular rheumatism)	3.61		.90	.25	3.54			.19
Diseases of the integumentary system	95.67			2.45	59.49			1.38
All other diseases	18.05			.44	16.29		.71	.59
Heat stroke					2.12			.07
Frostbite and general freezing								
Contusions and sprains	143.50			3.83	126.78		.71	2.84
Dislocations	2.71			.14	4.25		1.42	.47
Fractures (not gunshot)	9.93	.90	.90	2.10	12.04		.71	2.50
Incised, lacerated, contused, and punctured wounds	47.83		1.80	2.07	42.49			1.30
Shot wounds	2.71	3.61	.90	.35	1.42	2.12		.11
All other injuries	64.98	1.80	.90	2.00	32.58	2.12	.71	.80
Total for disease	939.53	.90	14.44	33.82	739.38	4.25	18.41	26.28
Total for injuries	271.66	6.32	4.51	10.50	221.67	4.25	3.54	8.68
Total for all causes	1,211.19	7.22	18.95	44.32	961.05	8.50	21.95	34.96

TABLE XII.—*Specific febrile and acute infectious diseases.*

Diseases.	United States. 1891.	United States. 1890.	United States. 1888-'89.	Great Britain, 1889.	Italy, 1889.	Prussia, Saxony, Würtemberg, 1888-'89.
Cerebro-spinal fever	.09	.04	.09	.02	.05	.05
Chicken pox	.69	.....	.15	.09	.14	.....
Cholera	.....	.....	.....	.....	.....	.....
Diphtheria	.21	.21	.39	.01	.05	.89
Enteric fever	3.95	5.24	5.17	1.39	4.83	3.53
Measles	7.74	2.48	3.61	1.50	6.56	1.29
Mumps	2.58	.87	4.11	.68	2.74	(*)
Scarlet fever	.13	.25	.18	1.62	.37	1.29
Smallpox	.22	.04	.13	.02	.61	.....
Varioloid	.09	.....	.08	.....		.11
Typhus fever	.....	.....	.01	.03	.01	.....
Whooping cough	.09	.21	.08	.01	.....	.....
Yellow fever	.....	.....	.18	.....	.....	.....

* Enumerated under the digestive system.

TABLE XIII.—*Distribution of specific febrile diseases, etc., at United States military posts during the year 1891.*

Posts.	Specific febrile and acute infectious diseases, excluding influenza and erysipelas. Cerebro-spinal fever.	Chicken pox.	Dengue.	Diphtheria.	Enteric fever.	Measles.	Mumps.	Scarlet fever.	Smallpox.	Varioloid.	Whooping cough.	Other infectious diseases.	Total.	Ratio per 1,000 of mean strength.	Influenza.	Erysipelas.	Aggregate.	Ratio per 1,000 of mean strength.
Columbus Barracks, Ohio		6		1		93	33						133	226.96	45		178	303.75
Fort Myer, Va					15	3							18	104.04	10		28	161.84
Fort Logan, Colo		3			5	4		1				3	16	55.75	153	2	171	595.82
Davids Island, N. Y					2	14							16	29.26	38	2	56	102.38
Fort Monroe, Va		1			3	4						3	11	25.17	124	1	136	311.22
Fort Leavenworth, Kans				1	3	4		1				1	10	14.21	86		96	136.36
Fort Bayard, N. Mex						7	2						9	28.30	47	1	57	179.24
Fort Douglas, Utah					9								9	21.64	119	1	129	310.10
Fort Niobrara, Nebr					1		6						7	17.68	95		102	257.58
Fort Porter, N. Y		1			1	3						2	7	66.04	39	1	47	443.39
Fort Reno, Okla					7								7	23.18	38		45	149.00
Fort Snelling, Minn					1	5			1				7	21.14	34		41	123.86
Fort Thomas, Ky						6					1		7	53.03	29		36	272.72
Washington Barracks, D. C					1	6							7	22.58	31		38	122.59
West Point, N. Y							6					1	7	18.77	89		96	257.37
Fort Wingate, N. Mex						7							7	20.59	126	1	134	394.11
Fort Bliss, Tex					4		1						5	45.46	12	2	19	172.72
Fort Supply, Ind. T						5							5	22.94	39		44	201.82
Benicia Barracks, Cal							4						4	44.44	3		7	77.78
Fort McIntosh, Tex			1						1	2			4	26.14		1	5	32.68
Fort Randall, S. Dak					4								4	48.78	14		18	219.50
Fort Riley, Kans		1		1	2								4	6.67	110		114	190.00
Vancouver Barracks, Wash					2		1	1					4	9.32	2		6	13.99
Fort McHenry, Md					2		1						3	22.06	18		21	154.41
Fort McPherson, Ga						3							3	9.40	121		124	388.71
Fort Meade, S. Dak		1			1	1							3	8.33	53	2	58	161.11
Fort Sam Houston, Tex					3								3	6.01	6	1	10	20.04
Fort Walla Walla, Wash		1			2								3	12.29	47		50	204.91
Fort Yates, N. Dak					3								3	13.04	11	1	15	65.22
Fort Yellowstone, Wyo						3							3	50.85			3	50.85
Field, Dept. of the Platte	1				2								3	7.79	16		19	49.35
Fort Adams, R. I					1	1							2	8.27	26		28	115.70
Fort Barrancas, Fla						2							2	18.52	28		30	277.78
Boise Barracks, Idaho					1	1							2	18.02	1		3	27.03
Fort Canby, Wash					2								2	20.00	21		23	230.00
Fort Hamilton, N. Y						2							2	8.03	74		76	305.22
Jackson Barracks, La						1	1						2	19.05	14		16	152.39
Fort McKinney, Wyo					1							1	2	7.22	42	1	45	162.46
Madison Barracks, N. Y					1				1				2	6.33		1	3	9.49
Mount Vernon Barracks, Ala					2								2	12.42		1	3	18.63
Newport Barracks, Ky					2								2	31.75	6		8	126.99
Fort Ringgold, Tex							2						2	17.86			2	17.86
Fort Sherman, Idaho					2								2	7.12	21		23	81.85
Fort A. Lincoln, N. Dak					1								1	15.87	12		13	206.35

TABLE XIII.—*Distribution of specific febrile diseases, etc.*—Continued.

Posts.	Specific febrile and acute infectious diseases, excluding influenza and erysipelas.														Influenza.	Erysipelas.	Aggregate.	Ratio per 1,000 of mean strength.
	Cerebro-spinal fever.	Chicken pox.	Dengue.	Diphtheria.	Enteric fever.	Measles.	Mumps.	Scarlet fever.	Smallpox.	Varioloid.	Whooping cough.	Other infectious diseases.	Total.	Ratio per 1,000 of mean strength.				
Angel Island, Cal	1												1	4.93	3	2	6	29.58
Benicia Arsenal, Cal											1		1	19.61	7		8	156.88
Fort Clark, Tex							1						1	2.98	15		16	47.76
Fort D. A. Russell, Wyo						1							1	2.65	5	1	7	18.57
Fort Du Cheene, Utah				1									1	4.83	91	2	94	454.11
Camp at Eagle Pass, Tex									1				1	19.23			1	19.23
Jefferson Barracks, Mo		1											1	2.28		1	2	4.57
Fort Keogh, Mont						1							1	2.96	114	4	119	352.04
Fort Mackinac, Mich						1							1	9.09	52		53	481.82
Fort Missoula, Mont							1						1	5.38	36		37	198.91
Fort Ontario, N. Y		1											1	17.54	5	1	7	122.80
Camp Pilot Butte, Wyo					1								1	18.18			1	18.18
Plattsburg Barracks, N. Y												1	1	15.62	8		9	140.62
Presidio, San Francisco, Cal							1						1	2.23	112		113	252.23
Fort Robinson, Nebr						1							1	2.48	17	2	20	49.51
San Carlos, Ariz					1								1	4.52	3		4	18.10
Fort Shaw, Mont					1								1	12.82			1	12.82
St. Francis Barracks, Fla												1	1	9.35	2		3	28.04
Fort Townsend, Wash					1								1	15.62	5		6	93.73
Fort Warren, Mass									1				1	9.90			1	9.90
Fort Wayne, Mich						1							1	4.15	41		42	174.28
Willets Point, N. Y						1							1	2.75	52		53	146.00
Field, Dept. of Dakota					1								1	3.65		1	2	7.30
Field, Dept. of Texas				1									1	14.92	1		2	29.85
Fort Omaha, Nebr															123	1	124	298.66
Fort Assiniboine, Mont															105	1	106	260.45
Fort Sidney, Nebr															62		62	324.61
Fort Grant, Ariz															49		49	169.55
Fort Sully, S. Dak															35		35	246.49
Leavenworth, prison, Kans															28		28	254.88
Fort Sill, Okla															25	2	27	88.82
Fort Stanton, N. Mex															24	1	25	190.82
Fort Custer, Mont															21		21	60.70
Rock Island Arsenal, Ill															19		19	296.87
Fort Bowie, Ariz															15		15	120.96
Fort Sheridan, Ill															13	1	14	45.45
Fort Wadsworth, N. Y															14		14	88.66
Camp Pena Colorado, Tex															13		13	282.61
Fort Washakie, Wyo															13		13	85.53
Frankford Arsenal, Pa															12		12	315.80
Camp Oklahoma, Okla															12		12	235.29
Fort Schuyler, N. Y															12		12	127.67
Alcatraz Island, Cal															11		11	97.34
Fort Columbus, N. Y															10		10	40.65
Indianapolis Arsenal, Ind															9	1	10	400.00
Fort Preble, Me															9		9	136.36
Allegheny Arsenal, Pa															8		8	296.67
Augusta Arsenal, Ga															7	1	8	363.63
Fort Davis, Tex															6	1	7	57.38
Fort Marcy, N. Mex															7		7	437.50
Fort Niagara, N. Y															7		7	47.95
Fort Brown, Tex															6		6	98.73
Fort Lewis, Colo															5		5	116.28
Sandy Hook, N. J															5		5	113.64
Whipple Barracks, Ariz															4	1	5	20.66
Fort Trumbull, Conn															3	1	4	61.54
Chicago, Ill															3		3	57.69
Fort Mason, Cal															2	1	3	48.39
San Diego Barracks, Cal															3		3	48.15
Springfield Armory, Mass															3		3	111.11
Fort Wood, N. J															3		3	53.57
Fort Brady, Mich															2		2	17.24
San Antonio, Tex															2		2	60.61
Fort Spokane, Wash															1	1	2	12.99
Watertown Arsenal, Mass															2		2	68.97
Watervliet Arsenal, N. Y															2		2	33.00
Fort Bennett, S. Dak																1	1	12.35
Fort Huachuca, Ariz															1		1	4.85
Camp Poplar River, Mont															1		1	9.09
St. Louis, Mo															1		1	71.43
Total	2	16	1	5	92	180	60	3	5	2	2	13	381		3,087	47	3,515	

TABLE XIV.—*Distribution of pneumonia at United States military posts during the year 1891.*

[Cases of pneumonia, complications of other diseases not included.]

Names of posts.	Admissions.				Dispositions.			Right lung.							Left lung.					Both lungs.					Typhoid, side not given.	Typhoid, lower lobes, both lungs.	Lobar, side and lobe not given.	Catarrhal.				
	Total.	White.	Colored.	Indian.	Duty.	Died.	Otherwise.	Upper lobe.	Middle lobe.	Lower lobe.	Entire.	Upper and middle lobes.	Lobe not given.	Total.	Upper.	Lower.	Entire.	Lobe not given.	Total.	Lower lobes.	Entire.	Right lung and upper lobe left.	Lobes not given.	Total.				Side not given.	Right side.	Left side.	Upper right lobe.	Lower lobe, left lung.
Fort McKinney, Wyo	12	12			6	4	2			8				8		1	1		2	1	1			2								
Fort Niobrara, Nebr	9	5		4	8		1	1			3			4		5			5													
Columbus Barracks, Ohio	8	6	2		5	3		3		2				5	2	1			3													
Platte, field	8	6	2		3	1	4				1			1		3	1		4	2				2	1							
Fort Riley, Kans	7	7			7																							2	3	2		
Fort Douglas, Utah	4	4			2	2		2					1	3								1		1								
Fort Keogh, Mont	4	4			4					1				1			2		2		1			1								
Fort Grant, Ariz	3	1	2		2	1										1	1		2							1						
Fort Missoula, Mont	3		3		3											2			2										1			
Fort Bayard, N. Mex	2		2		1	1				1				1			1		1													
Fort Du Chesne, Utah	2		2		2					1				1														1				
Jefferson Barracks, Mo	2	2				1	1			1				1							1			1								
Fort Leavenworth, Kans	2	2			1	1					2			2																		
Fort Robinson, Nebr	2		2		2					1	1			2																		
Fort Washakie, Wyo	2		1	1	2											1			1									1				
Watervliet Arsenal, N. Y	2	2			2											1	1		2													
Fort Whipple, Ariz	2	2			1		1						1	1																		1
Fort Wingate, N. Mex	2	2			2				1					1		1			1													
Fort Abraham Lincoln, S. Dak	1	1			1					1				1																		
Fort Adams, R. I	1	1			1															1				1								
Angel Island, Cal	1	1			1											1			1													
Fort Apache, Ariz	1		1		1											1			1													
Boise Barracks, Idaho	1	1			1						1			1																		
Fort Buford, N. Dak	1		1		1																										1	
Fort Custer, Mont	1	1			1				1					1																		
Dakota, field	1	1			1											1			1													
Camp Guthrie, Okla	1	1			1					1				1																		
Fort Huachuca, Ariz	1	1					1																							1		
Jackson Barracks, La	1	1					1					1		1																		
Madison Barracks, N. Y	1	1				1														1				1								
Fort McIntosh, Tex	1	1			1																						1					
Plattsburg Barracks, N. Y	1	1				1																			1							

TABLE XIV.—*Distribution of pneumonia at United States military posts during the year 1891*—Continued.

[Cases of pneumonia, complications of other diseases not included.]

Names of posts.	Admissions.				Dispositions.			Right lung.							Left lung.					Both lungs.					Typhoid, side not given.	Typhoid, lower lobes, both lungs.	Lobar, side and lobe not given.	Catarrhal.				
	Total.	White.	Colored.	Indian.	Duty.	Died.	Otherwise.	Upper lobe.	Middle lobe.	Lower lobe.	Entire.	Upper and middle lobes.	Lobe not given.	Total.	Upper.	Lower.	Entire.	Lobe not given.	Total.	Lower lobes.	Entire.	Right lung and upper lobe left.	Lobes not given.	Total.				Side not given.	Right side.	Left side.	Upper right lobe.	Lower lobe, left lung.
Presidio of San Francisco, Cal.	1	1					1									1			1													
Fort Randall, S. Dak	1	1				1																	1	1								
Rock Island Arsenal, Ill.	1	1			1											1			1													
Fort Sam Houston, Tex	1	1					1			1				1																		
Sandy Hook, N. J.	1	1					1											1	1													
Fort Shaw, Mont.	1		1		1											1			1													
Fort Thomas, Ariz	1		1			1					1			1																		
Fort Townsend, Wash.	1	1				1				1				1																		
Fort Wayne, Mich	1	1				1							1	1																		
Total	99	74	20	5	65	20	14	6	2	19	9	1	3	40	2	22	7	1	32	5	3	1	1	10	2	1	1	4	4	3	1	1

TABLE XV.—*Twenty posts giving the highest admission rates for malarial diseases, rheumatism, diarrhea, and venereal diseases, respectively, during 1891.*

I.—MALARIAL DISEASES.

Names of stations.	Mean strength.	Ratios per 1,000 of mean strength.			
		Admissions.	Deaths.	Discharges for disability.	Constantly non-effective.
Fort Sill, Okla	304	546.05			10.03
Fort Reno, Okla	302	456.95			10.42
Washington Barracks, D. C	310	348.40			6.00
Camp Oklahoma, Okla	51	333.33			9.24
Jackson Barracks, La	105	228.57			6.24
Fort Wadsworth, N. Y	159	213.84			2.60
Camp at Eagle Pass, Tex	52	211.53			2.85
Newport Barracks, Ky	63	174.60			4.57
Fort Hancock, Tex	49	163.27			3.47
St. Francis Barracks, Fla	107	149.53		9.35	4.15
Jefferson Barracks, Mo	438	141.55			3.43
Fort Thomas, Ky	132	136.36			2.88
Fort Thomas, Ariz	58	120.68			1.04
Fort Apache, Ariz	218	119.26			1.68
Mount Vernon Barracks, Ala	161	118.01			3.79
Fort Clark, Tex	335	104.48	2.98		3.05
Fort Yellowstone, Wyo	59	101.70			2.79
Presidio, San Francisco, Cal	448	100.45			1.75
Fort Ringgold, Tex	112	98.21			6.34
Fort McPherson, Ga	319	97.18			3.63

II.—RHEUMATISM.

[Muscular and articular.]

Fort Apache, Ariz	218	247.70			6.23
Fort Robinson, Nebr	404	215.35			7.45
Fort Canby, Wash	100	200.00		10.00	7.45
Fort Shaw, Mont	78	166.67			6.36
Fort Ontario, N. Y	57	157.89			2.31
Camp Pena Colorado, Tex	46	152.18			.77
Fort Barrancas, Fla	108	148.14			9.72
Newport Barracks, Ky	63	142.86			2.91
Fort Gaston, Cal	55	127.27			3.29
Fort Wingate, N. Mex	340	126.45			4.25
Fort Custer, Mont	346	124.27			4.70
Jackson Barracks, La	105	123.80			13.02
Fort Meade, S. Dak	360	122.22			4.60
San Carlos, Ariz	221	122.17			5.44
Fort Bowie, Ariz	124	120.96			1.37
Fort Thomas, Ariz	58	120.68			5.15
Fort McPherson, Ga	319	115.98			2.52
Fort Du Chesne, Utah	207	111.11			2.44
Rock Island Arsenal, Ill	64	109.48			1.58
Fort Yates, N. Dak	230	108.70			9.97

III.—DIARRHEAL DISEASES.

Fort Barrancas, Fla	108	574.06			18.14
St. Francis Barracks, Fla	107	392.50			2.87
Camp at Eagle Pass, Tex	52	384.62			2.16
Fort McPherson, Ga	319	379.30			4.53
Fort Apache, Ariz	218	353.21			2.93
Fort Hamilton, N. Y	249	329.30			2.75
Fort Stanton, N. Mex	131	320.61	7.63		5.10
Fort Thomas, Ariz	58	310.35			3.97
Madison Barracks, N. Y	316	281.64			2.79
Fort Sill, Okla	304	253.30	3.29		3.46
Fort Monroe, Va	437	235.69			1.81
Sandy Hook, N. J	44	227.29			1.37
Watervliet Arsenal, N. Y	59	220.35			1.67
Fort Reno, Okla	302	215.23			2.55
Fort Sam Houston, Tex	499	208.42			2.42
Fort Ringgold, Tex	112	178.56			2.13
Fort Robinson, Nebr	404	170.79			1.40
Fort Snelling, Minn	331	163.13			1.20
Fort Supply, Ind. T	218	155.95			1.43
Fort Clark, Tex	335	152.23			1.49

TABLE XV.—*Twenty posts giving the highest admission rates for malarial diseases, rheumatism, diarrhea, and venereal diseases, respectively, during 1891*—Continued.

IV.—VENEREAL DISEASES.

Names of stations.	Mean strength.	Ratios per 1,000 of mean strength.			
		Admissions.	Deaths.	Discharges for disability.	Constantly non-effective.
Columbus Barracks, Ohio	586	266.20	.....	10.24	15.95
Jackson Barracks, La	105	219.04	.....	.....	14.79
Fort McPherson, Ga	319	216.30	.....	18.80	15.19
Jefferson Barracks, Mo	438	146.12	.....	6.85	7.89
Fort Thomas, Ky	132	143.94	.....	.....	3.86
Fort Ontario, N. Y	57	140.34	.....	35.09	8.41
San Diego Barracks, Cal	65	138.45	.....	.....	7.38
Camp Oklahoma, Okla	51	137.25	.....	.....	3.54
Fort Bliss, Tex	110	136.37	.....	.....	7.99
Fort Barrancas, Fla	108	129.63	.....	.....	9.73
Fort Apache, Ariz	218	127.51	.....	4.59	1.44
Fort Walla Walla, Wash	244	127.05	.....	12.29	15.89
Fort McHenry, Md	136	125.01	.....	7.35	16.27
Fort McIntosh, Tex	153	124.18	.....	.....	10.67
Presidio, San Francisco, Cal	448	122.77	.....	.....	11.23
Washington Barracks, D. C	310	122.57	.....	.....	6.15
Angel Island, Cal	203	113.30	.....	9.85	9.16
Mount Vernon Barracks, Ala	161	111.80	.....	.....	8.33
Fort Sam Houston, Tex	499	104.20	.....	2.00	7.24
Fort Custer, Mont	346	104.04	.....	.....	4.54

TABLE XVI.—*Twenty posts giving the highest non-effective rates for malarial diseases, rheumatism, diarrheal and venereal diseases, respectively, during 1891.*

I.—MALARIAL DISEASES.

Names of stations.	Mean strength.	Constantly non-effective per 1,000 of mean strength.	Average number sick daily.	Average number of days each case was treated.
Fort Reno, Okla	302	10.42	3.14	8.30
Fort Sill, Okla	304	10.03	3.05	6.70
Camp Oklahoma, Okla	51	9.24	.47	10.12
Fort Ringgold, Tex	112	6.34	.71	23.55
Jackson Barracks, La	105	6.24	.65	9.98
Washington Barracks, D. C	310	6.00	1.86	6.29
Fort Barrancas, Fla	108	5.89	.64	25.73
Newport Barracks, Ky	63	4.57	.29	9.55
St. Francis Barracks, Fla	107	4.15	.44	10.13
Mount Vernon Barracks, Ala	161	3.79	.61	11.74
Fort McPherson, Ga	319	3.63	1.16	13.65
Fort Hancock, Tex	49	3.47	.17	7.75
Jefferson Barracks, Mo	438	3.43	1.50	8.85
San Carlos, Ariz	221	3.37	.75	18.13
Boise Barracks, Idaho	111	3.11	.35	25.30
Fort Clark, Tex	335	3.05	1.02	10.66
Fort McHenry, Md	136	2.92	.40	12.66
Fort Thomas, Ky	132	2.88	.38	7.73
Columbus Barracks, Ohio	586	2.87	1.68	11.35
Camp at Eagle Pass, Tex	52	2.85	.15	4.81

TABLE XVI.—*Twenty posts giving the highest non-effective rates for malarial diseases, rheumatism, diarrheal, and venereal diseases, respectively, during 1891*—Continued.

II.—RHEUMATISM.

Names of stations.	Mean strength.	Constantly non-effective per 1,000 of mean strength.	Average number sick daily.	Average number of days each case was treated.
Jackson Barracks, La	105	13.02	1.37	38.38
Fort Yates, N. Dak	230	9.97	2.29	33.48
Fort Barrancas, Fla	108	9.72	1.05	23.94
San Diego Barracks, Cal	65	9.31	.61	55.25
Fort Canby, Wash	100	7.45	.75	13.60
Fort Robinson, Nebr	404	7.45	3.01	12.63
Fort Wadsworth, N. Y	159	7.08	1.13	37.36
Camp Pilot Butte, Wyo	55	6.82	.38	27.40
Presidio, San Francisco, Cal	448	6.68	2.99	37.66
Fort Apache, Ariz	218	6.23	1.36	9.19
Fort Ringgold, Tex	112	6.12	.68	35.71
Fort Bayard, N. Mex	318	5.90	1.88	40.29
Fort Hamilton, N. Y	249	5.66	1.41	22.35
San Carlos, Ariz	221	5.44	1.20	16.26
Madison Barracks, N. Y	316	5.18	1.64	24.92
Fort Thomas, Ariz	58	5.15	.30	15.57
Fort Grant, Ariz	289	5.08	1.47	21.44
Fort Snelling, Minn	331	4.94	1.64	18.66
Fort McKinney, Wyo	277	4.77	1.32	18.54
Fort Custer, Mont	346	4.70	1.63	13.81

III.—DIARRHEAL DISEASES.

Fort Barrancas, Fla	108	18.14	1.96	11.53
Fort Stanton, N. Mex	131	5.10	.67	5.81
Fort McPherson, Ga	319	4.53	1.44	4.36
Fort Thomas, Ariz	58	3.97	.23	4.67
Fort Sill, Okla	304	3.46	1.05	4.99
Fort Apache, Ariz	218	2.93	.65	3.08
St. Francis Barracks, Fla	107	2.87	.31	2.67
Madison Barracks, N. Y	316	2.79	.88	3.62
Fort Hamilton, N. Y	249	2.75	.68	3.05
Fort Reno, Okla	302	2.55	.77	4.34
Fort Myer, Va	173	2.45	.42	9.12
Fort Sam Houston, Tex	499	2.42	1.21	4.25
Fort Logan, Colo	287	2.35	.68	9.15
Camp at Eagle Pass, Tex	52	2.16	.11	2.05
Fort Ringgold, Tex	112	2.13	.24	4.35
Fort Riley, Kans	600	1.98	1.19	9.84
Chicago, Ill	52	1.95	.10	37.00
Fort Monroe, Va	437	1.81	.79	2.81
Fort Hancock, Tex	49	1.67	.08	6.00
Watervliet Arsenal, N. Y	59	1.67	.10	2.77

IV.—VENEREAL DISEASES.

Camp at Eagle Pass, Tex	52	16.28	.85	77.25
Fort McHenry, Md	136	16.27	2.21	47.53
Columbus Barracks, Ohio	586	15.95	9.35	21.88
Fort Walla Walla, Wash	244	15.89	3.88	45.65
Fort McPherson, Ga	319	15.19	4.85	25.64
Jackson Barracks, La	105	14.79	1.55	24.65
Fort Schuyler, N. Y	94	14.02	1.32	96.20
Presidio, San Francisco, Cal	448	11.23	5.04	33.42
Fort McIntosh, Tex	153	10.67	1.63	31.37
Fort Bayard, N. Mex	318	9.77	3.11	35.44
Fort Barrancas, Fla	108	9.73	1.05	27.43
Angel Island, Cal	203	9.16	1.86	29.52
Fort Ontario, N. Y	57	8.41	.48	21.87
Mount Vernon Barracks, Ala	161	8.33	1.34	27.22
Fort Bliss, Tex	110	7.99	.88	21.40
Jefferson Barracks, Mo	438	7.89	3.46	19.72
Fort Gaston, Cal	55	7.67	.42	77.00
Fort Omaha, Nebr	418	7.59	3.17	30.47
San Diego Barracks, Cal	65	7.38	.48	19.44
Fort Sam Houston, Tex	499	7.24	3.61	25.37

TABLE XVII.—*Prevalence of alcoholism at the various posts and its influence on the effective force of the garrisons for the year 1891.*

Names of stations.	Mean strength.	Ratio per 1,000 of mean strength.		Names of stations.	Mean strength.	Ratio per 1,000 of mean strength.	
		Admissions.	Constantly non-effective.			Admissions.	Constantly non-effective.
Camp Pilot Butte, Wyo	55	218.18	2.24	Fort Monroe, Va	437	36.61	.21
Camp Pena Colorado, Tex	46	195.65	2.38	Fort McKinney, Wyo	277	36.10	.30
Fort Ontario, N. Y	57	192.99	2.50	Fort Sully, S. Dak	142	35.21	.25
Jackson Barracks, La	105	180.95	2.04	Fort Robinson, Nebr	404	34.65	.29
Madison Barracks, N. Y	316	164.56	1.98	Watertown Arsenal, Mass	29	34.48	.47
Fort Canby, Wash	100	160.00	1.34	Angel Island, Cal	203	34.48	.19
Willets Point, N. Y	363	134.99	1.21	Fort Assinniboine, Mont	407	34.40	.32
Plattsburg Barracks, N. Y	64	125.00	1.16	Fort Omaha, Nebr	418	33.49	.30
San Diego Barracks, Cal	65	123.07	2.82	Benicia Barracks, Cal	90	33.33	.37
St. Francis Barracks, Fla	107	121.50	1.54	Fort Hamilton, N. Y	249	32.13	.36
Fort McHenry, Md	136	110.29	1.01	Fort Leavenworth, Kans	704	31.25	.32
Whipple Barracks, Ariz	242	99.17	.83	Fort Meade, S. Dak	360	30.55	.15
Camp at Eagle Pass, Tex	52	96.16	1.32	San Antonio, Tex	33	30.30	.42
Fort Brady, Mich	116	94.83	1.11	Fort Preble, Me	66	30.30	.17
Fort McPherson, Ga	319	84.64	.87	Fort Warren, Mass	101	29.70	.79
Fort Niobrara, Nebr	396	78.28	.87	Fort Niagara, N. Y	146	27.40	.19
Fort Thomas, Ky	132	75.76	.56	Fort Snelling, Minn	331	27.19	.30
Fort Wadsworth, N. Y	159	75.47	.67	Boise Barracks, Idaho	111	27.03	.12
Fort Douglas, Utah	416	67.31	.83	Fort Ringgold, Tex	112	26.78	.24
Fort Brown, Tex	62	64.52	.80	Fort Riley, Kans	600	26.67	.47
Fort Schuyler, N. Y	94	63.83	.64	Alcatraz Island, Cal	113	26.55	.58
Fort Reno, Okla	302	62.92	.99	Fort Walla Walla, Wash	244	24.59	.28
Fort Du Chesne, Utah	207	62.81	.46	Presidio, San Francisco, Cal	448	22.32	.15
Fort Townsend, Wash	64	62.50	.64	Fort Sidney, Nebr	191	20.94	.20
Fort Marcy, N. Mex	16	62.50	.34	Fort Hancock, Tex	49	20.41	.22
Fort Sheridan, Ill	308	61.69	.77	Camp Poplar River, Mont	101	19.80	.11
Washington Barracks, D. C	310	61.29	1.11	Fort Sill, Okla	304	19.74	.15
Benicia Arsenal, Cal	51	58.82	.48	Camp Oklahoma, Okla	51	19.61	.16
Vancouver Barracks, Wash	429	58.27	.91	Mount Vernon Barracks, Ala	161	18.63	.00
Fort Mackinac, Mich	110	54.55	.65	Fort Supply, Ind. T	218	18.35	.53
Fort Keogh, Mont	338	53.25	.42	Leavenworth Prison, Kans	109	18.35	.08
Fort Union, N. Mex	19	52.63	.43	Fort Gaston, Cal	55	18.18	.20
Fort Yellowstone, Wyo	59	50.85	.70	Fort Wood, N. J	56	17.86	.05
Camp at Guthrie, Okla	20	50.00	.41	Fort Sherman, Idaho	281	17.79	.19
Fort Logan, Colo	287	48.78	.51	Fort Wingate, N. Mex	340	17.65	.23
Fort Sam Houston, Tex	499	48.10	.77	Fort Myer, Va	173	17.34	.16
Fort Clark, Tex	335	47.76	.29	Fort Columbus, N. Y	246	16.26	.19
Newport Barracks, Ky	63	47.62	.35	Fort Missoula, Mont	186	16.13	.13
Rock Island Arsenal, Ill	64	46.87	.64	Fort Mason, Cal	62	16.13	.00
Fort Barrancas, Fla	108	46.30	1.34	Fort A. Lincoln, N. Dak	63	15.87	.17
Fort Bliss, Tex	110	45.46	.55	Columbus Barracks Ohio	586	13.65	.15
Fort Spokane, Wash	155	45.16	.92	Fort McIntosh, Tex	153	13.07	.07
Fort Yates, N. Dak	230	43.48	.34	Fort Randall, S. Dak	82	12.20	.03
Fort Buford, N. Dak	164	42.68	.48	Jefferson Barracks, Mo	438	11.42	.08
Fort Davis, Tex	122	40.98	.34	Davids Island, N. Y	547	10.97	.11
Fort Bowie, Ariz	124	40.32	.27	West Point, N. Y	373	10.72	.15
Fort Huachuca, Ariz	206	38.84	.41	Fort Bayard, N. Mex	318	9.43	.18
Fort Stanton, N. Mex	131	38.17	.56	Fort Apache, Ariz	218	9.17	.03
Fort Porter, N. Y	106	37.74	.54	Fort Custer, Mont	346	8.67	.32
Fort Wayne, Mich	241	37.34	.43	Fort Grant, Ariz	289	3.46	.07
Fort Adams, R. I	242	37.19	.68	In the field, U. S. Army	899	8.90	.05
Fort D. A. Russell, Wyo	377	37.14	.45				

TABLE XVIII.—*Loss and gain to the Hospital Corps for the year ending June 30, 1892.*

	Hospital stewards.	Acting hospital stewards.	Privates.	Matrons.
In service July 1, 1891	124	71	530	144
GAIN.				
Reënlisted	24	6	37	
Appointed	13			86
Rejoined from desertion			2	
Detailed from private, Hospital Corps		34		
Transferred from line			211	
Enlisted			36	
Reënlisted from other corps			15	
Reduced from acting hospital steward			3	
Total to be accounted for	161	111	834	230
Total gain	37	40	304	86
LOSS.				
Discharged:				
Expiration of service	27	17	127	
For disability	1	1	9	
By general court-martial			6	
By order	3	6	75	92
Promoted		11	33	
Retired	4		2	
Died	1		2	
Reduced to private		3		
Deserted	1		7	
Dropped			1	
Total loss	37	38	262	92
In service June 30, 1892	124	73	572	138

TABLE XIX.—*Causes and ratios of rejections among 25,050 recruits examined during the year 1891.—White, 23,725; colored, 1,325.*

Causes of rejection.	White.				Colored.				White and colored.			
	Rejected on primary examination.	Rejected on secondary examination.	Total.	Ratios per 1,000.	Rejected on primary examination.	Rejected on secondary examination.	Total.	Ratios per 1,000.	Rejected on primary examination.	Rejected on secondary examination.	Total.	Ratios per 1,000.
Malarial diseases	5	.....	5	.2	.....	.....	.....	.....	5	.....	5	.2
Enthetic diseases	363	16	379	16.0	41	4	45	34.0	404	20	424	16.9
Dietic diseases	561	.....	561	23.6	7	.....	7	5.3	568	.....	568	22.7
Constitutional diseases	55	5	60	2.5	1	.....	1	.8	56	5	61	2.4
Developmental diseases	1,217	17	1,234	52.0	105	.....	105	79.2	1,322	17	1,339	53.5
Parasitic diseases	53	.....	53	2.2	2	.....	2	1.5	55	.....	55	2.2
Nervous diseases	50	14	64	2.7	17	.....	17	12.8	67	14	81	3.3
Diseases of the eye	2,044	14	2,058	86.7	54	.....	54	40.8	2,098	14	2,112	84.3
Diseases of the ear	173	11	184	7.8	3	1	4	3.0	176	12	188	7.5
Diseases of the nose	16	1	17	.7	.....	.....	.....	.....	16	1	17	.7
Respiratory diseases	37	4	41	1.7	1	1	2	1.5	38	5	43	1.7
Diseases of the circulatory system	648	21	669	28.2	26	.....	26	19.6	674	21	695	27.7
Diseases of the digestive system	980	15	995	41.9	39	.....	39	29.4	1,019	15	1,034	41.3
Diseases of the lymphatic system	24	1	25	1.1	6	1	7	5.3	30	2	32	1.3
Diseases of the genito-urinary system	1,009	14	1,023	43.1	32	1	33	24.9	1,041	15	1,056	42.2
Diseases of the locomotor system	524	17	541	22.8	28	1	29	21.9	552	18	570	22.8
Diseases of the integumentary system	175	4	179	7.5	6	.....	6	4.5	181	4	185	7.4
Results of injuries	151	7	158	6.7	5	.....	5	3.8	156	7	163	6.5
Over age	260	.....	260	11.0	30	.....	30	22.6	290	.....	290	11.6
Under age	862	15	877	37.0	83	.....	83	62.6	945	15	960	38.3
Over height	30	.....	30	1.3	1	.....	1	.8	31	.....	31	1.2
Under height	204	.....	204	8.6	18	.....	18	13.6	222	.....	222	8.9
Over weight	79	.....	79	3.3	.....	.....	.....	.....	79	.....	79	3.1
Under weight	632	.....	632	26.6	27	.....	27	20.4	659	.....	659	26.3
Under size	467	.....	467	19.7	25	.....	25	18.9	492	.....	492	19.6
Obesity	9	.....	9	.4	.....	.....	.....	.....	9	.....	9	.4
Illiterate	4	.....	4	.2	.....	.....	.....	.....	4	.....	4	.2
Imperfect knowledge of English	503	.....	503	21.2	7	.....	7	5.3	510	.....	510	20.4
Moral depravity	124	.....	124	5.2	9	.....	9	6.8	133	.....	133	5.3
Character bad and doubtful	224	6	230	9.7	20	2	22	16.6	244	8	252	10.1
Deserters and ex-convicts	30	27	57	2.4	1	1	2	1.5	31	28	59	2.4
Discharged for disability and by order	28	39	67	2.8	2	4	6	4.5	30	43	73	2.9
Married or having dependent relatives	270	4	274	11.5	32	.....	32	24.2	302	4	306	12.2
Declined	566	.....	566	23.9	5	.....	5	3.8	571	.....	571	22.8
General unfitness and unclassified	2,507	.....	2,507	105.7	207	.....	207	156.2	2,714	.....	2,714	108.3
Aggregate	14,884	252	15,136	638.0	840	16	856	646.0	15,724	268	15,992	638.4

REPORT OF THE PAYMASTER-GENERAL.

REPORT

OF

THE PAYMASTER-GENERAL.

WAR DEPARTMENT,
PAYMASTER-GENERAL'S OFFICE,
Washington, D. C., October 10, 1892.

SIR: I have the honor to submit the following as the annual report from this office for the fiscal year ended June 30, 1892:

On the 1st of July, 1892, officers of the Pay Department were charged with balances of public funds amounting to	$1,140,838.47
They received during the fiscal year 1892:	
From the United States Treasury	14,429,502.90
From soldiers' deposits	334,474.70
From Army paymasters' collections	276,333.74
Total receipts during year	16,181,149.81

This sum is accounted for as follows:

Expended on account of pay of Army	$13,246,607.33
Expended on account of pay of Military Academy	203,716.15
Expended on account of Signal Corps (Treasury certificate)	5.68
Expended on account of pay of volunteers (Treasury certificates)	1,068,668.25
Surplus funds deposited to credit United States Treasurer	317,086.54
Paymasters' collections deposited to credit United States Treasurer	276,333.74
Balances charged paymasters June 30, 1892	1,068,732.12
Total accounted for	16,181,149.81

Comparing these statistics with those of earlier periods it is observed that receipts from soldiers' deposits, under a system inaugurated twenty years ago, are less than in any other year since 1877; the number of depositors is less than in any other year since 1878. During the last five years the deposits have averaged $45,000 less annually than during the five years immediately preceding. Inasmuch as the deposits are wholly voluntary and wholly in the interest of the soldier, it would be instructive to learn what changes in the recent administration of the Army have operated to weaken the soldier's disposition or reduce his ability to take advantage of the considerate provisions of the laws relating to this subject. Assuredly a substantial deposit account is among the strongest guarantees of faithful service.

The expenditures on account of pay of Army were nearly $300,000 less during the past year than during the preceding year. This decrease in expenditures is explained by the following: The unsettled claims pertaining to earlier years outstanding at the beginning of the fiscal year 1891 largely exceeded the corresponding claims at the be-

ginning of the fiscal year 1892. It is estimated that in 1892 the pay retained from enlisted men under the provisions of section 1 of the act of Congress approved June 16, 1890, being $4 in the first year of a soldier's service, exceeded the amount so withheld during the preceding year by about $245,000. During the past year there was a considerable falling off in the amount paid to discharged soldiers on account of deposits and interest; on the other hand, the amount paid last year to officers and enlisted men of the retired list exceeded the expenditures of this character in any earlier year.

The expenditures on account of Treasury certificates were nearly $300,000 less last year than during the preceding year. The demands on this account during 1891 were excessive, and the requirements of the past year may be taken as a fair index of what will be needed during the present and succeeding years.

The appropriations made by Congress for pay of the Army and the Military Academy for the past year proved ample; the payments were effected with commendable promptness and fidelity, and, with a single exception, without loss.

On the 6th of November last Maj. Sniffen, paymaster, at about 11:30 o'clock at night, reached Fort Clark, Tex., having the sum of $5,480.50 in United States funds for the payment of the troops at that post. By the direction of the post commander these funds were lodged for safe keeping till morning locked in a cell of the post guardhouse. During the night access to the funds was gained and the sum of $3,300 was stolen. The amount stolen was composed of Treasury or bank notes, the entire balance untouched being silver coin. Maj. Sniffen promptly referred the matter of his loss to the Court of Claims, and the court as promptly rendered a judgment relieving him of responsibility for the loss.

The expenditure for mileage to officers traveling on duty without troops during the current fiscal year is limited to $155,000. The expenditures for mileage chargeable to last year's appropriation will not fall short of $210,000. It may be safely anticipated that the mileage appropriation for the current fiscal year will be exhausted as early as March 1, 1893. To settle accounts based on travel performed after that date there will be no funds until Congress provides them.

For reasons already set forth in the annual reports from this office it is recommended that authority be obtained to settle mileage accounts on the single basis of distance traveled.

The accompanying itemized analysis of mileage expenditures during the past year will show the character of the duty upon which these disbursements were based.

Mileage disbursements, 1892, appropriation from July 1, 1891, to June 30, 1892.

Change of stations	$53,494.75
European travel	2,059.20
Recruiting duty	26,974.78
Boards of examination to examine officers	8,349.09
Board of Ordnance and Fortifications	1,675.73
Ordnance Department: Gun construction; foundry, steel, powder, and proving-ground inspection	3,130.11
Inspection: Disbursing officers' accounts; colleges; national cemeteries; battle fields; horses, public buildings	23,457.17
Medical boards and inspection by medical officers	4,623.97
Military prison commission and inspection of military prison	157.98
Instruction and inspection of National Guard	2,443.71
Retiring boards and officers retired and ordered home	4,801.22
Payment of troops	18,473.83

Treasurer and professors Military Academy: Military Academy duty	$169.74
Courts-martial (to and from)	18,180.25
Returning from conducting prisoners and insane men	1,130.09
Boards of survey	469.90
Commanding generals and aides	10,353.58
Rifle teams	13,820.15
Summer encampments	50.28
Instructions of Secretary of War—duty not defined by orders	4,160.52
On public business—duty not defined by orders	6,599.41
World's Fair Commission	500.58
Total	205,076.02

By the retirement of Maj. Bash in July last the number of majors in the Army Pay Department was reduced to twenty-nine. This was the legal limit fixed by Congress in 1884. More recently Majors Larned and Poole have been retired, but the vacancies thus created could not be filled because the Army appropriation act for the current year provides that no appointment shall be made in the Army Pay Department until the number of paymasters is reduced below twenty-five.

In this connection I venture to make an extract from a report made in this office last February upon a bill then pending before Congress, which provided for reducing the number of paymasters:

The first authorized monthly payments at military posts were in the payment to July 31, 1887. In 1884 we had no retired enlisted men; now we have upwards of 600. The work of paying this class of men is considerably greater than to pay an equal number of commissioned officers. In 1884 we had 435 retired officers; now there are 584 retired officers. To take care of the accounts of these retired soldiers and increased number of officers is sufficient work for three paymasters. From my individual experience as paymaster I know it requires more work to keep the accounts and make the required returns than it did twenty years ago.

It is fallacious to urge that the work of paying the Army is materially reduced by the withdrawal of troops from an occasional post. When Fort Maginnis, Mont., was abandoned it did save the paymaster a week's overland travel six times a year. The abandonment of Fort Thomas, Ariz., 72 miles from a railroad did not avail to save the paymaster travel, because he necessarily passed through that point to reach San Carlos, which is still occupied by troops. Should Forts Apache, San Carlos, and Grant, all in the same route, be abandoned, it would very materially reduce the work of paying the troops in Arizona; one paymaster could then do what now gives full employment to two paymasters. The abandonment of intermediate points is of little or no consequence, and most of the posts recently abandoned are of this character. The abandonment of isolated points like Fort Gaston, Cal., or those which save travel by stage or ambulance, does reduce work and expense.

It is unsafe, however, to reduce the number of paymasters in anticipation of the discontinuance of remote and isolated points. The Pay Corps has, in fact, been undergoing reduction, much of the time, for over twenty years past. We are still in excess of the legal organization. No paymaster has been appointed since December, 1882. At the top of the list of majors in the active list of the Army stand the names of twelve paymasters. Many of these officers have had well towards thirty years of army service. It must be confessed many of us are no longer young men; ten paymasters only are under fifty years of age. Is it not unwise to subject the Pay Department to a further reduction until some experience is had after reaching the limit fixed by existing laws? Several paymasters have urged that they are hard worked; two paymasters are now on leave on account of sickness; one has ordinary leave of absence. This is not an excessive number to be off duty. Such absences must be considered in determining what strength is necessary for effective work.

I believe our force as at present constituted is none too strong for prompt and effective payments, and I beg that no further reduction will be made or contemplated.

This measure had been advocated because the number of posts at which troops are held was being reduced and the withdrawal of troops from other points was in contemplation. The only point from which troops have been withdrawn during the past year which saves work for the paymaster is Fort Gaston, Cal.

There are other reasons that have operated to add to the work done

by paymasters. The authority given recently to enlisted men to obtain their discharge on their own application or by purchase; the laws and orders relating to "retained" and "detained" pay are examples.

Reducing the number of paymasters is likely to result in a discontinuance of offices at some of the isolated points at which paymasters have heretofore been held. Denver, Cincinnati, and Detroit are instances. There are substantial reasons why a paymaster should be held at a point like Cincinnati. Officers and particularly enlisted men when discharged are put to inconvenience and expense in having their accounts settled if no paymaster is reasonably accessible.

In view of this presentation I am constrained to urge, as some compensation for a reduced number of paymasters, an increase in the number of paymaster's clerks. The necessity for more clerical force in the office of the post paymaster in this city, and the officer charged with the settlement of Treasury certificates, is apparent. Some of the chief paymasters at other points have asked for additional help. To meet such demands it is respectfully recommended that authority be given for the employment of such number of paymaster's clerks, not exceeding forty, as the Secretary of War may deem necessary.

The number of posts at which the troops are paid monthly has not materially changed during the past year.

Generally at the arsenals and armories, which are not in the circuits made by paymasters in pay tours, the payments have for a year past been effected by remitting individual checks covering amounts due each soldier. In some cases officers have represented that this method of paying puts the soldiers to an expense, a charge being made by the banks for cashing such checks. Such charges can be avoided by actual money remittances, and this course is authorized by a recent act of Congress.

During the past fiscal year stoppages were made against the pay of officers as follows:

By request of the—	
Quartermaster-General	$2,101.29
Commissary-General	226.76
Chief of Ordnance	2,755.99
Chief Signal Officer	468.04
Accounting officers of the Treasury Department	7,002.40
By orders of the Secretary of War	69.25
By disallowances in Paymaster-General's office	3,086.94
Total	15,710.67

Of this amount there was—

Collected	$4,459.70	
Stoppages removed	10,593.09	
		15,052.79
Balance to be collected or otherwise removed		657.88

Again it gives me pleasure to commend, for their faithful, efficient, and patient work, the corps of clerks in the office of the Paymaster General. It is found frequently necessary for several of them to be at the office out of office hours.

The work of revising the accounts, keeping track of the estimates and the appropriations, demands the most careful and constant attention. In these branches of this office the force of clerks is clearly insufficient, and I beg that two additional clerks of class $1,000 be allowed for this office.

Attention is invited to the exhibits appended. They will in a measure show the work done by the several officers of the Pay Department. At the suggestion of the officials of the Treasury Department, and in the hope that the balances standing to the credit of disbursing officers would be somewhat reduced, requisitions for amounts required have latterly been made twice a month instead of once, as heretofore has been practiced. It is intended to keep to the credit of paymasters only such balances as are required for prompt and efficient work.

Very respectfully,

WM. SMITH,
Paymaster-General U. S. Army.

The SECRETARY OF WAR.

Statement of the account of the Pay Department, U. S. Army, with the appr

Appropriations.	In account				
	Balance in the Treasury July 1, 1891.	Amount of appropriations.	Unexpended balances deposited by paymasters.	Collections deposited by paymasters.	Repayments in settlement of accounts.
Pay, etc., of the Army, 1892		$13,227,679.19	$1,800.00	$144,279.73	$738.47
Pay of Military Academy, 1892		231,436.09		505.80	
Pay, etc., of the Army, 1891	$83,265.40		156,386.28	67,273.35	177.85
Pay of Military Academy, 1891	22,543.78		1,000.00		
Pay, etc., of the Army, 1890	68,552.03		28,333.01	644.90	16.40
Pay of Military Academy, 1890	12,349.47		6,720.34		163.34
Signal Service, pay, etc., 1890			329.21		
Pay, etc., of the Army, 1889 and prior years			9,774.05	791.98	6,969.91
Pay of two and three years' volunteers, 1871 and prior years					1,140.43
Bounty to volunteers, their widows and legal heirs, 1871 and prior years					1,282.29
Bounty under act of July 28, 1866					1,097.89
Bounty to Fifteenth and Sixteenth Missouri Cavalry Volunteers		600.00	400.00		
Extra pay to officers and men who served in Mexican war		1,000.00	1,000.00		
Three months' pay proper, act of July 3, 1884		300.00	1,700.00		
CERTIFIED CLAIMS.					
Pay, etc., of the Army	100.52		484.43		94.15
Pay of 2 and 3 years' volunteer	95.38		5,700.00		72.31
Pay of 2 and 3 years' volunteers, 1890			400.00		22.06
Pay of 2 and 3 years' volunteers, 1891			3,000.00		3.73
Pay of 2 and 3 years' volunteers, 1892		695,223.80			114.23
Bounty to volunteers, their widows and legal heirs	307.26		19,400.00		204.42
Bounty to volunteers, their widows and legal heirs, 1890			2,000.00		71.25
Bounty to volunteers, their widows and legal heirs, 1891			35,189.35		312.33
Bounty to volunteers, their widows and legal heirs, 1892		275,095.00	13,000.00		190.09
Bounty under act of July 28, 1866			2,400.00		14.91
Bounty under act of July 28, 1866, 1890			320.04		
Bounty under act of July 28, 1866, 1891			9,056.35		90.00
Bounty under act of July 28, 1866, 1892		56,810.00	10,000.00		90.00
TRANSFER ACCOUNTS.					
Pay, etc., of the Army, 1891					3,375.00
Pay, etc., of the Army, 1890					3,375.00
Pay, etc., of the Army, 1889 and prior years		7,138.53			129.70
Pay of 2 and 3 years' volunteers, 1871 and prior years		3,670.04			43.94
Bounty to volunteers, their widows and legal heirs, 1871 and prior years		100.00			185.00
Total	*187,219.84	14,499,052.65	308,395.06	213,495.76	19,905.67

* The item of $575.85, Signal Service, Pay, etc., 1891, included in total balance ($187,795.69), in the Treasury June 30, 1891; as reported in last annual statement, is dropped from foregoing statement, the account of the Pay Department with said appropriation having been closed November 30, 1890.

opriations subject to its control during the fiscal year ending June 30, 1892.

with the Treasury.							
Total.	Amount drawn by requisition.		Amount covered into surplus fund, act of June 20, 1874.	Total.	Balance in the Treasury June 30, 1892.	Balance in the hands of paymasters June 30, 1892.	Total balances June 30, 1892.
	On Pay Department request.	On Treasury settlements.					
$13,374,497.39	$13,041,500.00	$16,952.55	.....	$13,058,452.55	$316,044.84	†$996,787.26	$1,312,832.10
231,941.89	208,000.00	.....	.....	208,000.00	23,941.89	33,777.24	57,719.13
807,102.88	115,000.00	16,390.27	.....	131,390.27	175,712.61	8,773.63	184,486.24
23,543.78	500.00	95.02	.....	595.02	22,948.76	421.67	23,370.43
97,546.34	4,000.00	7,551.74	$85,994.60	97,546.34	.....	1,793.26	1,793.26
19,233.15	.....	.....	19,233.15	19,233.15	.....	.....	.....
329.21	.....	.....	329.21	329.21	.....	.....	.....
17,555.94	.....	.....	17,555.94	17,555.94	.....	.....	.....
1,140.43	.....	.....	1,140.43	1,140.43	.....	.....	.....
1,282.29	.....	.....	1,282.29	1,282.29	.....	.....	.....
1,007.93	.....	.....	1,007.93	1,007.93	.....	.....	.....
1,000.00	1,000.00	.....	.....	1,000.00	.....	211.57	211.57
2,000.00	2,000.00	.....	.....	2,000.00	.....	184.79	184.79
2,000.00	2,000.00	.....	.....	2,000.00	.....	337.69	337.69
685.10	94.15	.....	.....	94.15	590.95	.....	590.95
5,867.69	54.52	.....	.....	54.52	5,813.17	167.67	5,980.84
422.08	22.08	.....	.....	22.08	400.00	31.22	431.22
3,003.73	2,000.00	429.96	.....	2,429.96	573.77	45.89	619.66
695,338.03	694,905.85	432.18	.....	695,338.03	.....	4,588.79	4,588.79
19,911.68	189.50	.....	.....	189.50	19,722.18	99.81	19,821.99
2,071.25	11.25	60.00	.....	71.25	2,000.00	13.23	2,013.23
35,502.68	1,725.55	.....	.....	1,725.55	33,777.13	.....	33,777.13
288,585.00	288,000.00	285.00	.....	288,000.00	.....	6,448.78	6,448.78
2,414.91	.....	.....	.....	.....	2,414.91	182.54	2,597.45
320.04	100.00						
9,148.35	1,500.00	.....	.....	100.00	220.04	.....	220.04
66,900.00	66,900.00	.....	.....	1,500.00	7,648.35	300.00	7,948.35
		.....	.....	66,900.00	.....	14,567.08	14,567.08
3,375.00	.....						
3,375.00	.....	.....	3,375.00	3,375.00	.....	.....	.....
		.....	3,375.00	3,375.00	.....	.....	.....
7,268.23	.....						
		7,268.23	.....	7,268.23	.....	.....	.....
3,713.98	.....						
		8,713.98	.....	8,713.98	.....	.....	.....
285.00	.....	285.00	.....	285.00	.....	.....	.....
15,228,068.98	14,429,502.90	53,463.93	133,293.55	14,616,260.38	611,808.60	1,068,732.12	1,680,540.72

† Includes the sum of $2,598.50, for which Maj. C. C. Sniffen, paymaster, U. S. Army, is accountable, being balance unrecovered of $3,300, public funds, stolen from him at Fort Clark, Tex., November 6-7, 1891.

Statement, by appropriations, of approved and suspended disbursements in paymasters' accounts rendered during the fiscal year ending June 30, 1892, showing also balance of suspensions remaining June 30, 1891, removed during the fiscal year, and the balance remaining June 30, 1892.

Titles of appropriations.	Disbursements.			Suspensions.			
	Total.	Approved.	Suspended.	Amount of suspensions on books June 30, 1891.	Total suspensions.	Amount of suspensions removed during fiscal year ending June 30, 1892.	Amount of suspensions remaining on books June 30, 1892.
Pay, etc., of the Army, 1892	$12,377,263.82	$12,368,616.45	$8,647.37		$8,647.37	$5,761.48	$2,885.89
Pay of the Military Academy, 1892	174,237.10	174,234.96	2.14		2.14	2.14	
Pay, etc., of the Army, 1891	861,412.08	860,424.43	987.65	$2,785.10	3,772.75	3,221.13	551.62
Pay of the Military Academy, 1891	29,483.53	29,483.53		87.87	87.87	87.87	
Pay of the Army, 1890	7,348.15	7,348.15		128.83	128.83	62.02	66.81
Signal Service pay, 1890	5.68	5.68					
Pay, etc., of the Army, 1889	445.52	445.52					
Pay of the Army, 1889 and prior years				6,481.05	6,481.05	67.73	6,413.32
Signal Service pay, 1889 and prior years				70.34	70.34		70.34
Pay, etc., of the Army, certified claims	133.28	133.28					
Pay of 2 and 3 years volunteers, certified claims	1,048.98	1,048.98					
Pay of 2 and 3 years volunteers, certified claims, 1890	327.30	327.30					
Pay of 2 and 3 years volunteers, certified claims, 1891	35,699.16	35,699.16					
Pay of 2 and 3 years volunteers, certified claims, 1892	690,317.06	690,317.06					
Bounty to volunteers, their widows and legal heirs, certified claims	2,592.89	2,592.89					
Bounty to volunteers, their widows and legal heirs, certified claims, 1890	750.00	750.00					
Bounty to volunteers, their widows and legal heirs, certified claims, 1891	20,744.53	20,744.53					
Bounty to volunteers, their widows and legal heirs, certified claims, 1892	268,534.55	268,534.55					
Bounty under act of July 28, certified claims, 1866	314.91	314.91					
Bounty under act of July 28, 1866, certified claims, 1890	100.00	100.00					
Bounty under act of July 28, 1866, certified claims, 1891	2,862.75	2,862.75					
Bounty under act of July 28, 1866, certified claims, 1892	42,332.92	42,332.92					
Bounty to Fifteenth and Sixteenth Missouri Cavalry	788.30	788.30					
Extra pay to officers and men who served in Mexican war	1,294.90	1,294.90					
Three months' pay proper, act of July 3, 1884	960.00	960.00					
	14,518,997.41	14,509,360.25	9,637.16	9,553.19	19,190.35	9,202.37	9,987.98

Statement showing the balance in the hands of each disbursing officer of the Pay Department on the 1st of July, 1891, the amount remitted to each from the U. S. Treasury, or turned over by other agents during the fiscal year ending June 30, 1892; the amounts accounted for by accounts and vouchers of expenditures, or by transfer or replacement in the Treasury, and the balance remaining in the hands of paymasters to be accounted for in the next fiscal year.

Rank and name.	Balance in hands of each paymaster on June 30, 1891.	Remitted from the Treasury in the year ending June 30, 1892.	Received from other paymasters.	Soldiers' deposits.	Army paymasters' collections.	Total received and to be accounted for.	Surplus funds deposited in Treasury.	Army paymasters' collections.	Expenditures.	Transferred to other paymasters.	Balance in hands of each paymaster on June 30, 1892.	Total accounted for.
Colonel and assistant paymasters-general.												
Smith, Rodney	$36,163.52	$2,979,000.00	$183,837.09	$13,455.50	$11,451.61	$3,223,907.72	$14,340.44	$11,451.61	$1,070,662.83	$2,042,731.76	$84,721.08	$3,223,907.72
Rucker, William A	30,256.73	749,000.00	24,198.61	1,021.79	1,302.47	805,779.60	899.17	1,302.47	355,205.57	422,946.07	25,426.32	805,779.60
Lieutenant-colonel and deputy paymasters-general.												
Gibson, William R	53,101.98	300,000.00	97,935.07	55.49	808.89	451,901.43	911.88	808.89	93,147.76	357,032.90	.....	451,901.43
Terrell, C. M	45,923.38	710,000.00	17,5 7.04	4,803.50	6,298.27	784,542.19	8,480.38	6,298.27	445,820.36	296,890.05	27,053.13	784,542.19
Stanton, T. H	73,008.58	1,127,000.00	64,725.01	20,833.27	12,812.03	1,298,458.89	21,691.34	12,812.03	564,067.38	641,283.85	58,604.29	1,298,458.89
Major and paymasters.												
Glenn, George E	88,548.15	1,000,000.00	102,691.24	17,530.75	7,050.24	1,215,820.38	39,542.55	7,050.24	484,121.23	652,369.47	32,736.89	1,215,820.38
Canby, J. P	11,423.25	395,000.00	87,041.11	6,584.00	3,978.92	504,027.28	27,396.58	3,978.92	264,789.99	171,656.48	36,205.31	504,027.28
Candee, George W	31,079.64	90,000.00	352,600.00	17,215.36	8,797.35	499,692.35	544.94	8,797.35	470,295.37	10,000.00	10,054.69	499,692.35
Carey, A. B	20,773.46	276,000.00	163,918.42	2,423.00	6,037.86	469,152.74	.....	6,037.86	387,374.78	39,620.85	36,119.25	469,152.74
Willard, J. P. *	18,723.12	40,000.00	10,000.00	1,137.00	439.62	70,299.74	.....	439.62	42,687.73	27,172.39	.....	70,299.74
Coxe, F. M	25,741.28	504,000.00	107,097.94	4,693.00	4,332.73	645,864.95	6,601.01	4,332.73	350,315.21	262,218.56	22,397.44	645,864.95
Bates, A. E	7,525.52	.....	597,533.00	9,607.00	5,939.34	620,604.86	.....	5,939.34	544,386.50	37,000.00	33,279.02	620,604.86
Wilson, C. I	.....	278,000.00	59,216.63	1,731.75	2,471.27	341,419.65	.....	2,471.27	167,568.55	135,247.44	36,132.39	341,419.65
Eckels, W. H	33,609.99	197,000.00	151,447.75	4,008.75	7,290.80	393,357.29	.....	7,290.80	289,080.14	55,383.66	41,102.69	393,357.29
Roche, J. R	12,098.67	393,000.00	73,846.07	9,772.00	13,827.91	502,544.65	2,348.76	13,827.91	448,896.05	1,608.61	35,773.32	502,544.65
Towar, A. S	.....	205,000.00	174,268.75	13,034.97	8,540.74	400,844.46	.....	8,540.74	304,403.82	31,342.69	56,557.21	400,844.46
Maynadier, William M	80,814.59	88,000.00	172,279.25	5,478.25	6,382.52	352,954.61	.....	6,382.52	218,164.18	118,601.53	9,806.38	352,954.61
Arthur, William	4,831.67	25,000.00	320,948.78	13,545.25	9,217.69	373,543.39	.....	9,217.69	288,436.54	55,625.69	20,263.47	373,543.39
Keefer, J. B	14,870.31	.....	475,900.00	12,378.00	7,250.42	510,398.73	.....	7,250.42	474,271.66	7,37	28,869.28	510,398.73
Wham, J. W	35,250.70	110,000.00	106,646.53	3,445.00	6,162.57	261,504.80	20.00	6,162.57	125,120.21	105,419.07	24,782.95	261,504.80
Sniffen, C. C	7,006.78	239,000.00	384,963.09	8,567.58	7,505.48	647,042.93	701.50	7,505.48	450,994.56	175,716.54	12,124.85	647,042.93
Baird, George W	26,967.91	230,000.00	55,000.00	11,843.00	11,947.34	335,768.25	1,243.83	11,947.34	282,980.48	16,974.03	22,612.57	335,668.25
Larned, D. R	193,892.25	240,467.35	220,347.02	.....	461.02	655,167.64	122,933.75	461.02	206,274.41	325,498.46	.....	655,167.64
Robinson, George F	4,388.88	74,000.00	225,229.74	12,336.75	7,286.86	323,242.23	.....	7,286.86	244,066.97	71,888.40	.....	323,242.23
Creary, William E	.....	.....	181,749.68	8,286.40	7,194.55	197,230.63	.....	7,194.55	176,655.67	2,617.04	10,763.37	197,230.63
Dodge, F. S	32,612.06	243,000.00	41,039.70	14,571.25	11,500.57	342,723.58	236.33	11,500.57	288,454.30	18,075.39	24,456.99	342,723.58
McClure, Charles	14,551.09	.....	305,116.74	8,919.50	7,796.47	346,383.80	.....	7,796.47	260,776.54	17,696.64	50,114.15	336,383.80

* Died September 1, 1891.

Statement showing the balance in the hands of each disbursing officer of the Pay Department on the 1st of July, 1891, etc.—Continued.

Rank and name.	Balance in hands of each paymaster on June 30, 1891.	Remitted from the Treasury in the year ending June 30, 1892.	Received from other paymasters.	Soldiers' deposits.	Army paymasters' collections.	Total received and to be accounted for.	Surplus funds deposited in Treasury.	Army paymasters' collections.	Expenditures.	Transferred to other paymasters.	Balance in hands of each paymaster on June 30, 1892.	Total accounted for.
Major and paymasters—Continued.												
Witcher, J. S.	$20,900.50	$283,000.00	$47,730.62	$8,711.50	$6,204.29	$316,546.91	.....	$6,204.29	$268,057.55	$19,675.71	$22,609.36	$316,546.91
Whipple, C. H.	26,086.73	.....	559,800.00	14,823.50	6,894.37	607,604.60	.....	6,894.37	543,075.15	20,298.31	37,341.77	607,604.60
Comegys, W. H.	24,927.33	15,000.00	487,088.71	15,803.36	13,659.84	546,479.24	$1,089.99	13,659.84	471,273.88	22,708.09	37,747.44	546,479.24
Bash, D. N.	22,961.61	317,000.00	29,000.00	14,496.77	8,559.24	392,017.62	1,200.00	8,559.24	279,150.53	103,107.85	.....	392,017.62
Tucker, W. F.	32,077.55	1,455.00	592,131.36	7,557.05	11,253.02	2,098,018.98	30,377.49	11,253.02	1,516,917.66	461,431.36	78,039.45	2,098,018.98
Muhlenberg, J. C.	23,706.55	652,035.55	178,985.02	8,296.00	3,716.82	866,739.94	28,496.23	3,716.82	598,935.76	199,440.52	36,150.61	866,739.94
Poole, D. C.	19,539.49	222,000.00	138,550.00	9,385.31	7,493.50	396,968.30	.....	7,493.50	384,025.49	5,449.31	.....	396,968.30
Smith, George R.	62,122.55	796,000.00	7,500.00	16,820.60	21,487.09	903,930.24	5,530.37	21,487.09	819,227.22	4,000.00	53,585.56	903,930.24
Baker, J. P.	5,272.65	247,000.00	150,169.19	11,302.50	12,970.03	426,714.37	2,500.00	12,970.03	339,215.38	8,728.07	63,300.89	426,714.37
Total	1,140,838.47	14,429,502.90	6,938,049.16	334,474.70	276,333.74	23,119,198.97	317,086.54	276,333.74	14,518,997.41	6,938,049.16	1,068,732.12	23,119,193.97

Statement showing the number of pay-trips made, number of days consumed in travel, posts paid, and amount of field and office disbursements made by each disbursing officer of the Pay Department, during the fiscal year ending June 30, 1892.

Paymasters.	Number of pay-trips.	Days consumed.	Number of posts paid.	Miles traveled.						Payments.			Remarks.
				Ambulance.	Stage.	Railroad.	Steamer.	Other conveyance.	Total.	In field.	In office.	Total.	
ASSISTANT PAYMASTERS-GENERAL.													
Smith, Rodney	12	93	51	106		9,376	248		9,730	$210,692.02	$859,970.81	$1,070,662.83	
Rucker, W. A.	5	5	4			793			793	16,004.08	339,201.49	355,205.57	
DEPUTY PAYMASTERS-GENERAL.													
Gibson, W. R.											93,147.76	93,147.76	
Terrell, C. M.	24	24	12	148		76			224	68,111.03	377,709.33	445,820.36	
Stanton, T. A.	13	69	31	208		8,971			9,179	217,498.72	346,568.66	564,067.38	
PAYMASTERS.													
Glenn, George E.	3	52	20	673		7,339			8,012	106,869.58	377,251.65	484,121.23	
Canby, J. P.	16	37	16			7,034	224		7,258	37,098.64	227,691.35	264,789.99	
Candee, G. W.	12	86	47	84		14,399			14,483	203,043.93	267,251.44	470,295.37	
Carey, A. B.	40	46	67	129		3,877	916	68	4,990	98,655.96	288,718.82	387,374.78	
Willard, J. P.										8,942.31	33,745.42	42,687.73	
Coxe, F. M.	23	67	31	116	448	2,100	2,288	240	5,192	80,745.00	269,570.21	350,415.21	
Bates, A. E.	12	113	63	69		5,145	376		5,590	279,261.49	265,125.01	544,386.50	
Wilson, C. I.	7	11	11	19		396	432		847	33,743.16	133,825.39	167,568.55	
Eckels, W. H.	14	49	28			6,687	48	89	6,824	113,606.07	175,474.07	289,080.14	
Roche, James R.	18	110	49	1,112	40	9,594			10,746	249,993.29	198,9[illegible]2.76	448,896.05	
Towar, A. S.	8	74	19	1,459		3,619			5,078	173,706.30	130,697.52	304,403.82	
Maynadier, W. M.	8	71	31	386	800	2,840	1,212	160	5,398	107,027.89	111,136.29	218,164.18	
Arthur, William	15	86	35	906	294	10,072		92	11,364	183,222.32	105,314.22	288,436.54	
Keefer, J. B.	12	41	58	28		3,798	228		4,054	215,576.54	258,695.12	474,271.66	
Wham, Joseph W.	7	22	10	331		1,130	628		2,089	70,138.79	54,981.42	125,120.21	
Sniffon, C. C.	12	70	44	462		7,378	1,038		8,878	131,753.59	319,240.97	450,994.56	
Baird, G. W.	11	87	36	568		13,117		32	13,717	197,044.85	85,935.63	282,980.48	
Larned, D. R.											206,274.41	206,274.41	
Robinson, G. R.	14	67	34	761	72	4,892	648	169	6,542	143,545.16	100,521.81	244,066.97	
Creary, W. E.	15	123	78	1,500	680	14,302	286	75	19,343	158,552.94	18,102.73	176,655.67	
Dodge, F. S.	35	102	41	324		13,434			13,758	190,098.22	98,356.08	288,454.30	
McClure, Charles	9	64	26	785	84	8,414		32	9,319	120,674.96	140,201.58	260,776.54	
Witcher, J. S.	11	66	28	856		7,436			8,292	134,852.23	133,205.32	268,057.55	
Whipple, C. H.	13	45	25			4,462	176		4,638	170,783.68	372,291.47	543,075.15	

Statement showing the number of pay-trips made, number of days consumed in travel, posts paid, etc.—Continued.

Paymasters.	Number of pay-trips.	Days consumed.	Number of posts paid.	Miles traveled.						Payments.			Remarks.
				Ambulance.	Stage.	Railroad.	Steamer.	Other conveyance	Total.	In field.	In office.	Total.	
PAYMASTERS—continued.													
Comegys, W. H.	13	105	35	532	1,167	8,900	.....	.....	10,599	$226,365.66	$244,908.22	$471,273.88	
Bash, D. N.	9	72	26	114	882	6,681	.....	.....	7,677	138,738.11	140,412.42	279,150.53	
Tucker, W. F.	9	30	36	162	.....	720	3,384	.....	4,266	142,469.83	1,374,447.84	1,516,917.66	
Muhlenberg, J. C.	15	59	31	48	.....	6,429	4,684	28	11,189	75,582.22	523,353.54	598,935.76	
Poole, D. C.	14	40	47	116	.....	7,804	16	44	7,980	159,621.87	224,403.62	384,025.49	
Smith, George R.	27	71	32	230	.....	6,333	.....	.....	6,563	309,848.17	509,479.05	819,327.22	
Baker, J. P.	9	93	36	1,400	382	8,502	.....	.....	10,284	246,528.42	92,686.96	339,215.38	
Total	465	2,148	1,168	13,636	4,849	216,050	16,832	1,629	252,396	$5,020,197.02	$9,498,800.39	$14,518,997.41	

REPORT OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

REPORT

OF

THE CHIEF SIGNAL OFFICER.

WAR DEPARTMENT, SIGNAL OFFICE,
Washington, October 10, 1892.

SIR: I have the honor to submit the following report on the Signal Corps of the Army for the fiscal year ending June 30, 1892:

MILITARY TELEGRAPH LINES.

The demands for immediate communication insisted upon by the commercial communities of the world have been followed in Army administration, so that wherever and whenever the commercial telegraph systems of the United States have not reached military stations and posts it has been found necessary to establish and maintain telegraph lines to such points for strictly military purposes. At the present time there are no less than twenty-eight military posts and stations, whose telegraphic connection with the great systems of the country are over permanent lines, constructed or operated, either entirely or in part, by the Signal Corps of the Army. There is now hardly a military post which has not a telegraph station either within its limits or at some convenient point speedy of access.

The military telegraph lines of the Signal Corps are divided into three classes: First, permanent lines for the purpose of maintaining communication with important military posts or stations; second, the field or flying telegraph lines, which equipment is organized and maintained with a view to their easy transportation and speedy utilization in connection with field operations in times of war. These lines during peace are usually operated for drill purposes, but on special occasions, as during this year, they are established and temporarily worked for the convenience of other departments of the General Government. Third, post or practice telegraph lines, primarily erected for the instruction of officers and enlisted men in telegraphy and signaling, but also serving in some instances to facilitate the administration of posts covering extended areas.

The permanent telegraph lines now operated by the Signal Corps aggregate about 900 miles in length. They have been under the general management of Capt. Charles E. Kilbourne, Signal Corps, whose report thereon forms Appendix A. The successful administration of Capt. Kilbourne, as of his predecessor prior to May, 1892, Capt. James

Allen, Signal Corps, now serving on the staff of Maj. Gen. Nelson A. Miles, appears from the fact that these lines are in the best condition within the history of the service, and their efficiency for the past year is demonstrated by the comparatively short average period of interruption as set forth in the annexed reports.

About 360 miles of line are under the immediate supervision of First Lieut. Frank Greene, Signal Corps, Chief Signal Officer Department of Arizona, who has charge of all telegraph lines within the limits of that department in addition to his specific duties as a member of the departmental staff. These lines are exceedingly important from a military standpoint, reaching as they do the great Indian reservations in Arizona and New Mexico.

The maintenance and operation of the section centering at San Carlos, Ariz., may be said to be indispensable to efficient and economical military operations in connection with the large number of Indians at that agency. The very great value of the double outlet from San Carlos, to commercial lines north and south, is demonstrated by the fact that the total interruption of telegraphic communication at stations on this division has averaged less than one day and one-third during the last fiscal year. It is true that the efficient administration of First Lieut. Frank Greene, Signal Corps, most efficiently supported by Gen. Alexander McDowell McCook, department commander, has brought these lines into unprecedentedly serviceable condition. Such improvement in the general condition of the lines does not fully account, however, for the practically uninterrupted service, since the Fort Stanton line, also under Lieut. Greene, with a single outlet has had its communication interrupted nearly eight times as long as the stations on the San Carlos section. This question of double outlet has an important bearing with reference to the Rio Grande section between Forts Brown and Ringgold, Texas, dwelt on later in this report.

The system of military telegraph lines under First Lieut. F. R. Day, Twentieth Infantry, acting signal officer, with headquarters at Bismarck, N. Dak., have been efficiently managed during the year. This system comprises scattered lines in North Dakota, Montana, Oklahoma, Utah, Texas, and Wyoming. The very great value of one of those lines was made evident by the so-called cattle war in Johnson County, Wyo., during the spring of 1892, when the Fort McKinney line rendered very valuable service to the Government, despite its bad condition. Besides being a single outlet line, it is connected with the great commercial telegraph systems of the country by a private line, also in very bad condition.

Owing to the military importance of this line, steps have been taken to insure uninterrupted communication telegraphically between Fort McKinney, the military post of that region, and department headquarters. The pending question as to the construction of a railway and its accompanying telegraph line to some point near Fort McKinney necessarily entails delay in this matter. As soon as the nearest point on the railway is known exactly the line will be reconstructed in such manner as to furnish reliable means of communication. The Chief Signal Officer is in communication with Gen. J. R. Brooke, commanding Department of the Platte, whose interest in such lines and prompt energy in insuring their maintenance has been the mainstay of this office within his military jurisdiction.

Lieut. Day has administered his system of lines with skill and good judgment, his remoteness from several sections of lines enhancing the difficulties of his situation. One of his lines, that extending from Fort

Brown to Fort Ringgold, Tex., although in good order, has given great trouble, owing to frequent and annoying interruptions inseparable from a single-outlet line in a sparsely settled region. On this short line of 100 miles communication was interrupted in the aggregate more than twenty-five days during the past year. The great importance of the line was strikingly apparent during the late border troubles, when complications of an international character were threatened on the lower Rio Grande. The impossibility, in times of such excitement, of maintaining communication over a single wire running through a country populated by people dominated by or favorable to the lawless element is evident. It is the work of a few minutes on the part of a malicious or lawless person to interrupt communication, which can only be restored by many hours of dangerous travel and arduous work. With a view of remedying this difficulty, and in order to insure reliableness of telegraphic communciation commensurate with the military importance of this line, the Chief Signal Officer has submitted a special estimate for a second outlet. For about $11,250 a line can be built from Fort Ringgold to Pena, on the Mexican National Railway, following the freight route a distance of about 75 miles.

While the permanent telegraph lines under the supervision of the Chief Signal Officer are constructed almost solely for military purposes, yet they secondarily subserve the growing and important business interests of the sections traversed by affording speedy communication with commercial centers. The tariff charges for commercial telegrams are extremely low, ranging from 10 to 25 cents for a message, so that the revenue from commercial business is necessarily limited. The volume of such business is so great, however, that the income assumes respectable proportions. There has been collected and turned into the Treasury of the United States, during the fiscal year ending June 30, 1892, the sum of $3,212.77, while for the same period the additional sum of $5,423.95 was collected for tolls on account of the commercial telegraph companies, and turned over to the proper officials. The total number of free messages transmitted over Government wires, consisting of Government, State, and other business, have been tabulated on one division, viz, Arizona, where they aggregated 39,000 messages, with a tariff value of $3,741.52. The same proportion—which is an underestimate—for other lines would make the tariff value of free messages about $8,000, so that the volume of business handled during the year reaches a tariff value of not far from $18,000.

FLYING-TELEGRAPH LINES.

The important part which electrical communications play in modern warfare emphasizes the necessity of developing to the highest degree of efficiency supplementary methods for armies operating away from the permanent telegraph lines of the country. Therefore, especial attention is now being given by the Signal Corps to the suitable equipment of its field or flying telegraph trains in all phases, from the establishment of flying telegraph lines between the permanent lines of the country and military headquarters to the provisions for temporary telegraphic or telephonic connection of headquarters with all essential points in camp or on battle line.

With this view in end and with the approval of the Major-General Commanding the Army and of the Secretary of War working sections of the flying telegraph train, equipped with the most modern appliances and capable of establishing 15 miles of line, are in the course of prepa-

ration, which will be operated for drill purposes at Fort Riley, Kans., Fort Grant, Ariz., and possibly at Fort Sheridan, Ill. and at the Presidio of San Francisco, Cal.

Careful and detailed experimental tests are being made with a view of obtaining a maximum of efficiency with the minimum of transportation. Among other questions under consideration and test are those pertaining to various samples of insulators, wire, lances, and batteries. Bamboo lances from Jamaica have been imported in order to determine their relative value as compared with those made of American woods. Such new dry batteries as promise well are worked experimentally to ascertain their fitness or superiority. The field telephone kit, wherewith a moving line can keep in communication with its brigade or division commander, has been satisfactorily devised, but seems yet susceptible of improvements before extended numbers are manufactured.

Perhaps the most satisfactory improvement during the year has been the device and construction of a flying cable-cart by Capt. Charles E. Kilbourne, Signal Corps. The portable telephone kit carries only a third of a mile of double-conductor cable, so that flying outpost lines of greater length necessitate the supply of additional wire by a more satisfactory method than that of the knapsack. The flying cable-cart affords an admirable solution of the problem. Its lightness, ease of traction, strength, and dimensions are such that one man can transport on it about 2 miles of insulated double-conductor cable over almost any ground that an armed man can pass, and with nearly the same rapidity of movement. The frame work of the cart is of steel tubing, the wheels skeleton, the spokes removable and interchangeable, the tires rubber-cushioned and easily replaced, the wheel bearings on steel balls. Its width between wheels is 26 inches, and the entire weight of the cart only 57 pounds, including a spooling device, which automatimatically and symmetrically winds up the recovered cable. The successful application of this cart, with its framework modified to suit varying demands, to other military purposes was so obvious that the Chief Signal Officer has invited the attention of officers concerned in special problems to its availability, especially for such cases as the removal of the wounded from the field and the supply of troops in line with ammunition. The cart, as now constructed, is operated by man power. It is expected, however, by means of specially devised folding shafts, that it may be moved by a mounted man, thus increasing the ease and celerity of operation when necessary.

With a view of obviating interruptions of telegraphic communications, which might result from the impracticability of making long spans with the light wire of the flying telegraph trains, a quantity of light river telegraph cable has been purchased for each flying train. This will be available either for use in streams of considerable width or on occasions when the passage of artillery, extended wagon trains, or other conditions, render it necessary or advisable to bury a telegraph line rather than to elevate it in midair.

PRACTICAL TELEGRAPH OPERATIONS.

The construction of a field or flying telegraph line differs materially from that of a permanent line. The material, while being sufficiently strong to insure uninterrupted communication and withstand the vicissitudes of weather, must also be light enough to render possible the transportation with moving troops of a line of considerable length, say 12 miles of line material by a four-mule team. The wire supports must

be rapidly erected and dismounted, and the wire and insulators be easily attached and detached from the telegraph lances without injury or deterioration. Moreover, the appliances for construction must be such that the line can be quickly put up over any kind of country.

With such conditions to fulfill it is evident that theory must be supplemented by practice and also that the erection of a flying line for drill purposes over a well-known, easily accessible, chosen piece of country only partly tests the means and methods.

Fortunately the past year has not been alone devoted to office work and theoretical considerations, but has also been marked by an extended practical application of the use of the flying-telegraph train of the Signal Corps. For an important but peaceful purpose in May, 1892, for the first time since the war of the rebellion, the Signal Corps constructed a field-telegraph line for actual use and operation. This work was done in the interest of the international Boundary Commission for the purpose of determining, by telegraph, the longitude of the monument marking a point upon the international boundary between the United States and Mexico, generally known as the "corner," 100 miles west of El Paso, Tex. In accordance with the request of Lieut. Col. John W. Barlow, Corps of Engineers, president of the commission, a flying-telegraph line was erected between Separ, N. Mex., on the Southern Pacific Railway, and the "corner," a distance by road of 42 miles.

This special work was intrusted to First Lieut. Frank Greene, Signal Corps, chief signal officer, Department of Arizona, with the consent of General Alexander McDowell McCook, commanding the Department, who also assured the success of the experiment by his cordial coöperation and indispensable aid in the way of transportation and troops.

Four skilled sergeants of the Signal Corps did the skilled labor, while the simpler work was well and faithfully done by Company D, Twenty-fourth Infantry.

The line was constructed across a very difficult country, which was devoid of water, with scanty vegetation, and its alluvial wash marked by numerous outcroppings of rock, the conditions and soil thus being most unfavorable. Twelve miles of line were constructed the first day in eight hours, but later the work progressed more leisurely. The heat was oppressive, the conditions of drought and dust most trying, and it was inadvisable to fatigue the working party, inasmuch as ample time would intervene before the astronomical observations could be made. The line, between 34 and 35 miles in length, was, however, completed in twenty-five working hours.

The work of construction was so well done that, despite violent winds daily across the line, it remained in constant working order from its completion until dismantlement. The wire was used four nights, May 14 to May 17, inclusive, with results eminently satisfactory to the Commissioners. The entire 34 miles of line and line material were dismantled and recovered in three days' work, averaging eight hours each.

In seventeen days the command charged with the operation of the field-telegraph train had arrived at Separ, unloaded the material, erected and maintained in an unfavorable country until no longer required a telegraph line over 34 miles long, and had dismantled, recovered, and shipped the entire train; this with a force, excepting the officer and 4 skilled sergeants of the Signal Corps, untrained and entirely unacquainted with the duty. Lieut. Greene, in his report, ascribes especial credit to Capt. J. N. Morgan and Second Lieut. H. C. Keene, jr., for their valuable personal supervision of the arduous and

faithful work done by their command, Company D, Twenty-fourth Infantry.

The construction and operation of this line were valuable methods of practice for the Signal Corps, supplementing Lieut. Greene's drill and theory with actual fieldwork. It was asked for at short notice, and the work was to be done in a section of the country, remote from commercial centers, where the deficiency or defects of implements or materials could not be remedied. The field-telegraph equipment itself was in course of reconstruction so as to bring it in accord with the latest electrical and business methods. The material used in this work was necessarily gathered from five different points, from Fort Riley, Kans., eastward to Worcester, Mass. In short, the conditions of time and place under which the line was erected were fairly representative of active field service. Such practical experience can not fail to be beneficial to the Signal Corps as a means of developing defects and imperfections which were not patent during practice drills. Among other points the construction of this flying telegraph illustrated the necessity of special transportation for telegraph material to be used for field purposes.

MILITARY BALLOONS.

The introduction of balloons in connection with field-telegraph trains for the purpose of collecting and transmitting military information brings into special importance the question of aërial navigation. Ballooning forms one of the general branches of such navigation, wherein is used, first, an apparatus lighter than air, or, second, heavier than air. The Signal Corps, in equipping a balloon section for use in connection with each field-telegraph train, is simply amplifying the ideas of Gen. Fitz John Porter, enunciated early in the war of the rebellion. The utility and importance of balloons for obtaining military information during field operations were amply demonstrated by Gen. Porter, but with many other American ideas, such as repeating arms, etc., proved too advanced for the time and had to await recognition and development by the military authorities of other nations. The United States, the first nation to use balloons in war, as it was the first to use the electric telegraph and signal paraphernalia on the field of battle, has, consequently, seen these ideas adopted and improved by all other important military powers.

Improved methods of equipment, manipulation, and transportation have come with improved industrial and inventive methods, but to the present day there have been no experiments sufficiently satisfactory to prove the advisability or practicability of replacing the captive balloon of Gen. Porter by free balloons, either for extended reconnoissances or as instruments of offensive warfare. The important part to be played in future wars by free dirigible balloons or by flying machines appears unquestionable, and Mr. Maxim, the great experimentalist, is justified in saying, "when the first flying machine succeeds its first great use will be for military purposes. * * * It will at once become an engine of war not only to reconnoiter the enemy's position, as has been attempted by the so-called dirigible balloons, but also of carrying and dropping into the enemy's lines and country large bombs charged with high explosives."

As regards balloons, extensive and continued experiments have brought the use of a captive balloon to such a degree of excellence that its utility in any extended warfare is beyond question. The efforts to construct a dirigible balloon which can be managed so as to have its

movements under perfect or even satisfactory control have so far been inconclusive. There is no question that Porter, Jullien, Giffard, Tissaudier, Campbell, and other private inventors have constructed balloon apparata which have actually been propelled in any desired direction, but only at a low rate of speed and during comparatively calm weather.

It has been pointed out by Capt. Fullerton, R. E., that a satisfactory war balloon must carry three or four passengers, a supply of explosive shells, and a machine gun or two, and be able to travel about 30 miles an hour in calm weather, and that the balloon should have a lifting capacity of about 5,500 pounds, of which about 1,700 should be in passengers, instruments, explosives, and ballast. The French military dirigible balloon, known as the Challais-Meudon, was somewhat successful at a low rate of speed and in calm weather only; but with a total weight of 4,400 pounds it was only able to carry 310 pounds of passengers and 470 of ballast.

The experiments and investigations of such able scientists as Prof. Langley in the United States, Col. Duchemin, French engineers, and of Mr. Maxim, if they have not conclusively demonstrated the fact, certainly have contributed much to convince intelligent men of the practicability of aërial navigation by air ships heavier than air. The future success of such navigation apparently depends upon and awaits the construction of a motor considerably lighter than those now in use.

During the past fiscal year the project of adding military balloons to the flying telegraph train was fully considered. The recommendations made by the Chief Signal Officer were approved by the Commanding General of the Army and by the Secretary of War.

In consequence a balloon section is being organized with each flying telegraph train. As a supplement to and in connection with the train will be operated a captive balloon, with modern equipments, so that military information as to topography, the disposition and movement of troops, etc., may be collected photographically or visually. The balloon will be connected by aërial telephone cable, so that information can be transmitted from or sent to the occupants of the balloon.

Situated, as is the Signal Corps, with appropriations so small as to forbid any extended experiments, the Chief Signal Officer in this connection was obliged to most carefully weigh the differing systems of ballooning now in operation; consequently the balloon equipments of foreign governments have been carefully considered and studied. The Chief Signal Officer has finally concluded to follow, for the present, the English system of a captive skin balloon, provided with a double conductor insulated captive cable, and inflated from portable cylinders containing hydrogen compressed under 120 atmospheres. By this means it is hoped that after experimental drill the trained officers and men of the Signal Corps will be able to fill the balloon and make an ascent of half a mile or more in half an hour. From this coign of vantage the signal officer can communicate by telephone either with his comrades at the train base, or over the flying telegraph line with the commanding general.

It is hoped and expected that the Signal Corps will be able to exhibit at the World's Columbian Exposition in 1893 a captive balloon with an aërial telephone cable and connecting telegraph line.

The preliminary collation of the data and discussion of details as to captive balloons have been made by Capt. Richard E. Thompson, Signal Corps, whose unremitting attention and zealous application has rendered possible such speedy consideration of this question. This

work has been voluntary on the part of Capt. Thompson, being assumed by him in extra hours after the performance of his duties in connection with the War Department exhibit in Chicago. So much of Capt. Thompson's investigations as are pertinent form Appendix B to this report.

POST TELEGRAPH LINES.

In addition to the permanent military telegraph lines serving as a means of communication between isolated posts and the general commercial lines of the country, the Chief Signal Officer has fostered the construction and operation of practice telegraph lines within the limits of the larger military posts, and there are now in operation seventy-six of such lines. In this manner interest in military signaling has been largely increased, especially as the Morse or American telegraph code is now the approved signal code of the Army. Many men and quite a number of officers devote their application and energy to acquire in leisure hours a knowledge of telegraphy, which may enhance the value of their services while in the Army and be of benefit in civil life. The great military advantage of having telegraph operators in the Army was conclusively taught during the war of the rebellion, and was again emphasized during the railway troubles of 1877, when it was more than once a matter of importance for commanding officers to know exactly what messages were passing to and fro within their field of operation.

MILITARY SIGNALING.

The comprehensive report of Capt. Charles E. Kilbourne, Signal Corps, Appendix C, includes such details concerning military signaling as are of general interest. The provisions of the Army Regulations which charge department commanders with responsibility for the efficiency of their commands in military signaling, and with discretionary power to restrict post instruction in military signaling to such particular months as are most suitable and convenient, has aided in elevating the standard of efficiency and instruction in the line of the Army. The efforts of the Chief Signal Officer to stimulate an interest in signaling by furnishing ample supplies for practical work on target ranges and in connection with summer encampments and marches, together with the establishment of well-equipped telegraph lines in the more important military posts, have contributed to increased practice and knowledge. The results, however, render it more than ever evident that the line of the Army has neither the time nor the inclination to acquire anything more than the rudiments of telegraphy and signaling. The average time given to signaling by each man in the line of the Army during the past year is but 3.4 hours, or about one-third of a day. In three military departments (Columbia, Platte, and Dakota) the instruction has averaged less than two hours for each man, and in only one department, that of the Missouri, has it even approximated to one day, with an average of 8.4 hours.

While the present method of instruction occasionally results in an officer or a few men of the line acquiring sufficient practical knowledge of telegraphy to enable them to transmit or read messages sent over commercial telegraph lines at ordinary rates, yet it is very much to be doubted whether in case of a recurrence of railway troubles, such as those of 1877, there could be drawn from more than one or two regiments of the line officers and men competent to assume even military

supervision over the telegraphic communications passing to and fro within their hearing.

It is evident, therefore, that either signaling or telegraphy, except that of the simplest character, must devolve on the Signal Corps, whose restricted number and widely separated stations would render extended work impracticable in any sudden and grave emergency. As a matter of professional caution, the Chief Signal Officer is taking steps to ascertain the names and record the degree of proficiency in telegraphy and the higher branches of signaling of such officers and men of the line as exhibit a marked degree of interest and aptitude.

In this manner the services of such can be promptly made available for commands needing experts for immediate service. Information of similar import has been obtained from the officers of the Inspector-General's Department, who have inspected methods and extent of instruction in military signaling in the line of the Army to the advantage of this corps specially and the Army generally.

In connection with devices and instruments for military signaling important changes and marked improvements have been inaugurated in some instances, and are under consideration in other cases.

The heliograph has been substantially perfected, there being now two similar and satisfactory patterns, one for general use, suited to ranges up to 30 miles, and the second, with more delicate adjustments, for long-range work, which may be relied upon up to distances ranging from 60 to 100 miles, according to the condition of the atmosphere. These standard heliographs, with perfected screens, are being rapidly manufactured and distributed, and by the end of the present year the Army will, for the first time, have enough instruments for ordinary practice and instruction.

The great importance of securing for night work a signal lantern fit for reliable communication at distances up to 20 miles is fully recognized, as the torch is objectionable on several grounds. Considerable attention has been given to this subject, and recent experimental tests indicate an early and satisfactory solution of the problem.

Efforts to obtain telescopes superior to those used during the war of the rebellion having failed, the instruments remaining on hand have been put in the best possible order by expert instrument-makers, specially employed for the purpose. The equipment of field glasses, which for years was sadly deficient in quantity, has, as funds could be spared, been gradually increased, so that there is now about one field glass to every five officers, instead of one to every fifteen, as in 1877. The inability of the Signal Corps to equip our scouting officers with field glasses through lack of appropriations in past years worked pecuniary hardship upon officers of the line serving on the frontier, who have been compelled to purchase private glasses at a high price for official use, without even being permitted to procure them from the Signal Corps at cost. It is hoped that by the end of the present fiscal year there will be one glass to every four officers of the Army, and this number should be increased to at least one glass for every two officers. It appears indisputable that the Signal Corps should be able to furnish two field glasses to every company of cavalry and to such companies of infantry as are liable to be called upon for field service.

The field glass for ordinary issue is a six-lens, low-power glass, selected by a board of experts from about one hundred and fifty different patterns. Doubtless it is as good a glass as can be obtained for general use, but it is necessarily a compromise, since it is impracticable to obtain sharp definition, high power, good light, and extended field in

any single glass; consequently these qualities have been combined, with a regard to their importance, in the order here given. There have been purchased some glasses for special issue which have sharp definition and high power, 7 (*i. e.*, seven times the capability of the unassisted eye); and efforts are also being made to procure a free-hand field glass of extended field, moderate power, and good definition.

The material reduction in the price of aluminum has rendered it possible for the Signal Corps to purchase a considerable number of field glasses in frames of this metal. Their lightness (the weight being only half that of the ordinary metals) enables the observer to use the glass, free hand, for a considerable time without fatigue or discomfort. In case these frames prove strong and durable in wear, they will in time replace those of brass.

HELIOGRAPHIC SURVEY.

It is hoped that in time a heliographic survey of the more important military departments will be prepared on lines indicated by Lieut. Clough Overton, Fourth Cavalry, as outlined in Appendix C. Work of this character was initiated in Arizona by First Lieut. W. A. Glassford, Signal Corps, in 1887, and was given a great impetus by the energy of Assistant Adjutant General W. J. Volkmar in 1889–'90. The great contour map of the United States Geological Survey, constructed by Mr. Henry Gannett, would afford an excellent base for such survey, and the need of new military maps seems apparent, not only for adding such data as would facilitate speedy communication with troops in the field, but also for correcting the inaccurate and misleading physical data mentioned by Lieut. Overton as marring some of the maps. No doubt exists that Lieut. Overton is correct in his belief "that a complete heliographic survey of our western mountain region would have a permanent military value." If the wishes of Lieut. Greene in Arizona and of Lieut. Overton in the Department of the Columbia to collate a heliographic map of their respective departments by working reconnoissances, should be carried out, it would go far toward putting such work in a satisfactory condition. From a military standpoint the need and importance of such maps are evident.

SIGNAL SCHOOLS OF INSTRUCTION.

First Lieut. J. E. Maxfield, Signal Corps, has been in charge of the instruction of the enlisted men of the Signal Corps at Fort Riley, Kans., during the year. A course of instruction approved by the Chief Signal Officer has been inaugurated by Lieut. Maxfield, with a view of fitting the sergeants of the Signal Corps for their special duties. The course is both theoretical and practical, covering the subjects of electricity, military surveying, telegraphy, telephony, and signaling. This course takes six months' time, the four months being filled by theoretical and practical work and the last two by practical application only. Lieut. Maxfield has supplemented his work of instruction by conducting tests and experimental work bearing on the equipment of the Signal Corps, and has performed his duties in a most satisfactory manner. The field-telegraph train at Fort Riley is insufficienly protected from the weather, but it is hoped that his recommendation for a suitable shed for the protection of the train and for the storage of reserved signal stores may be carried out during the coming year.

The necessity of the new signal manual, for use at this school and

elsewhere, is obvious, and its preparation has been delayed by the Chief Signal Officer until the pending changes in field-telegraph trains, night signaling apparatus, and other devices upon which experiment is being made are completed, which should be at an early day.

TARGET RANGES.

A very decided improvement has been made in connection with the equipment of target ranges with instruments for determining the meteorological conditions of the air and for speedy intercommunication between the butts and firing points. Fully 60 per cent of the target ranges, including all of importance, are equipped with telephones or other preferred methods. Many of the transmitters and receivers, including all of those owned by the United States, are of earlier pattern, which in some instances are difficult of manipulation and adjustment. These instruments have been thoroughly overhauled during the year and have been largely supplemented or replaced by telephones and transmitters of the most approved and desirable patterns.

As regards meteorological instruments, modifications have been made in forms of equipment and devices inaugurated which have greatly facilitated the making and reducing of the necessary observations. The adoption of the sling psychrometer and of the compensated aneroid materially reduce and facilitate the work of the marksman, particularly on artillery ranges. The invention of an automatic register for the anemometer marks a very decided advance, since this instrument renders it possible to determine the velocity of the wind almost instantaneously. The time required heretofore to determine the velocity of the wind varied from two to five minutes, but with the new register it is determined in from ten to thirty seconds, depending upon the velocity. While the register is expensive, yet it is hoped that during the present year the Signal Corps will be able to equip all the larger artillery posts therewith.

Capt. Charles E. Kilbourne, Signal Corps, has prepared a table whereby the reduction of the meteorological factors affecting artillery target practice is greatly facilitated, which table has been distributed throughout the artillery arm of the service.

It appearing to the Commanding-General of the Army desirable that a text-book of meteorological instructions should be compiled for gunners of artillery, the Chief Signal Officer intrusted the preparation of this work to Capt. Charles E. Kilbourne, Signal Corps, whose varied and efficient service both as an artillery officer and also as a meteorologist peculiarly qualified him for this duty. These instructions have been carefully prepared, and are now in the hands of the General Commanding the Army, awaiting his approval.

CABLES FOR HARBOR DEFENSES.

The obvious advantage arising from concerted action in harbor defense renders it necessary to establish reliable and instant communication between all the important forts and harbor defenses of our great cities. The subject is one rather within the jurisdiction of the Board on Permanent Fortifications, but the Chief Signal Officer has thought it his duty to advance this matter by submitting a special estimate for $20,000 to initiate such a system of military cables and connecting land lines in New York, Boston, and San Francisco as in the judgment of the board should be necessary.

WHISTLE SIGNALS FOR DRILL.

The extended and open formation of troops in field maneuvers or active operations renders it impracticable for many orders to be satisfactorily given by the unaided voice. The number and variety of the bugle calls devised for giving commands are such that many unmusical soldiers are unable to distinguish and recognize them. With a view to correcting this defect a code of whistle signals was suggested by Sergeant Basil O. Lenoir, Signal Corps. A simple code for this purpose has been devised by Capt. Charles E. Kilbourne, Signal Corps. These whistle commands are readily made, as they consist of the simple letters of the General Service code, the initial letters of each word in the command being sounded. The code has been submitted to the major-general commanding for such consideration and action as he may deem appropriate.

DISBURSING DIVISION.

The report of Capt. Robert Craig, Signal Corps, as disbursing officer, forms Appendix D, and contains such information regarding contracts and disbursements as are required by law and regulations. In addition to his duty as disbursing officer, Capt. Craig has had charge of the general supply depot of the Signal Corps, which, since the transfer of Fort Myer to the uses of the line of the Army, has necessarily been located at Washington.

The labors of Capt. Craig have been arduous and exacting, as the very large amount of work enumerated in his report has been done without a regular clerk. His own clerical labors have been supplemented by those of his storekeeper and assistant storekeeper, who have been diverted from their special duties to an extent prejudicial to the interests of the public service. A clerk for the disbursing officer is greatly needed, Congress on the reorganization of the Signal Corps providing exactly one-half the clerical force estimated for and needed. An estimate for an additional second-class clerk for duty with the disbursing officer has been submitted, and it is hoped that Congress will give the much needed relief.

EXAMINER'S DIVISION.

The report of the Examiner's division, Appendix E, exhibits the very satisfactory condition of this division. It is very pleasant to report that the returns of property accountability and money accounts are rendered with a regularity and accuracy unequaled in the previous history of the corps.

THE NATIONAL MILITIA.

Impressed with the knowledge that the military strength of the nation in any vital struggle rests on the volunteer soldier of temporary service, the Chief Signal Officer has lost no occasion to cultivate the most cordial and closest relations with the militia and National Guard of the various States. This has been officially possible as the interest in signaling, which suddenly developed several years since in the National Guard of a number of States, has proved to be permanent. Requests for signal equipments of all kinds and for instructions as to methods of operation and management are quite frequent, despite the discour-

aging answers necessarily made. Information is promptly and fully given, but unfortunately the Signal Corps is not authorized under existing law to issue equipments for the use of the militia. Over half the States have asked for signal equipments and stores with the expectation and desire that the cost thereof should be charged against their allotment of the permanent appropriations made by Congress for the militia of the country. Despite the inability of the militia to procure signal equipments under the same regulations as govern the issue of other military stores, yet in several States signal corps have been organized, although necessarily equipped at private expense. The great value of such organization to the National Guard is recognized generally, and that its value is not theoretical and contingent, but practical and current, was plainly illustrated during the summer of 1892, as shown by the following extract from the very valuable report of Assistant Adjt. Gen. W. J. Volkmar on the Pennsylvania troops at Homestead.

Signal stations were soon established on both sides of the Monongahela River and communication constantly maintained between the separated forces by flag, heliograph, and lantern. It is true there is no regular signal corps in the guard, but various officers have voluntarily taken interest in signaling and an aide-de-camp of Gen. Snowden was fortunately owner of a pair of United States heliographs. When dense smoke rising from the chimneys of the Carnegie works rendered signaling with flags impossible, the penetrating power of the heliograph flash enabled troops on opposite sides of the river to maintain almost constant communication by day. Lanterns were used by night and a telegraph line was built to division headquarters upon the hill, connecting with commercial lines. The practical usefulness of signaling having been so plainly seen at this time, the guard is now taking steps to establish a regular signal corps and make it as efficient as that drawn from the Twelfth Infantry, National Guard of Pennsylvania, at this time.

It certainly can be considered no less than unfortunate that two commands of the National Guard of Pennsylvania, without telegraphic communication and separated by a broad river, should have been dependent for their intercommunication at such a critical period upon signaling instruments which were available through the generosity and foresight of an individual officer of the militia. To remedy such an unfortunate condition of affairs the Chief Signal Officer recommends that the act of Congress of February 12, 1887 (Chapter 129, Supplement to Revised Statutes, Vol. I) be amended by the insertion of the words "signal stores" after the words "ordnance stores" in sections 1, 3, and 4.

In accordance with recent legislation there has been organized in the National Guard of the State of New York a signal and telegraph corps on a permanent basis. There is a chief signal officer with the rank of major, under whose command each brigade has a signal company of 2 officers and 40 men, their primary work of signaling being supplemented by the usual military instruction. Under the zealous attention and intelligent efforts of Capt. Albert Gallup this corps is now in excellent working order. Instruction of selected men from the line is made by the signal corps at the State camp at Peekskill, so that in emergencies the small signal detachments may have as assistants men instructed in the rudiments of signaling. The wisdom and necessity of this organization were made apparent during the active service of the State militia of New York at Buffalo in the summer of 1892, when the signal corps contributed materially to efficient military operations by successfully working flag, torch, and flash-light stations. The New York Signal and Telegraph Corps has also equipped itself with a flying telegraph line 5 miles long, modeled on the system of this corps already described, which can accompany a marching column and may be operated by telegraph or telephone.

It is true that the act approved October 1, 1890, placed the Signal Corps of the Army on a permanent basis, yet in one respect the future of the officers of the corps is not encouraging. The great difference in rank between the Chief Signal Officer of the Army and that of the next officer of the corps, its major, renders it probable that in case of a vacancy the office of Chief Signal Officer would devolve upon some selected officer of the line. Deferred or denied promotion tends to the deterioration or prevents the complete military development of officers thus unfavorably affected. Unless there is contemplated some general reorganization of the entire staff of the Army, without, of course, affecting the vested right for further promotion of any staff officer under the present system, the chief signal officer, in justice to the junior officers of his corps, recommends independent legislation. It is apparent, however, in the present temper of Congress that no reorganization would be practicable which did not reduce the number of officers and decrease the expense of its maintenance.

It is suggested that whenever the position of Chief Signal Officer becomes vacant the chief of the corps should thereafter be a colonel, with two assistant chiefs, one with the grade of lieutenant-colonel and the other of major, to be promoted from the lower grades, and that the two inferior offices, those of first lieutenant, thus vacated by promotion, should be discontinued. Such an arrangement would decrease the number of officers by one, and reduce the expenses of the corps by several thousand dollars annually, while affording that promotion which is one of the incentives to zealous and efficient service.

In this office fidelity, zeal and application have characterized the clerical force, who are inadequate in numbers only. The two clerks of class 1 do work which, from its amount and importance, should insure increased pay, especially as under present conditions promotion is impossible for these clerks.

A. W. GREELY,
Chief Signal Officer.

The SECRETARY OF WAR.

APPENDIX A.

REPORT OF THE OFFICER IN CHARGE TELEGRAPH DIVISION.

GENERAL: As officer in charge of the Division of United States Military Telegraph Lines, I have the honor to submit the following report of the operations of the lines for the fiscal year ending June 30, 1892;

Capt. James Allen, Signal Corps, was relieved from duty in charge of this division on May 17, 1892, since which date the work has been under my immediate supervision.

In accordance with act of Congress the seacoast telegraph lines were transferred to the Weather Bureau, Department of Agriculture, on June 30, 1891, leaving only the military lines proper under the control of the Chief Signal Officer of the Army.

The military telegraph lines are divided into two general divisions: the Arizona division, under charge of First Lieut. Frank Greene, Signal Corps, with headquarters at Los Angeles, Cal.; and the Northwest division, under charge of First Lieut. Frederick R. Day, Twentieth Infantry, acting signal officer, with headquarters at Bismarck, N. Dak.

The following table shows the several sections comprising the Northwest division, with miscellaneous information relating thereto:

Sections and stations.	Number of iron poles on line.	Number of wooden poles on line.	Length of line. (Miles.)	Repair sections.	
				From—	To—
Bismarck:					
Bismarck, N. Dak				Bismarck	Hart River.
Fort Yates, N. Dak		1,500	65	Hart River	Fort Yates.
Custer:					
Fort Custer, Mont					
Custer Station, Mont	568	145	30	Fort Custer	Custer Station.
McKinney:					
Fort McKinney, Wyo					
Powder River, Mont	250	1,000	50	Fort McKinney	Powder River.
Washakie:					
Fort Washakie, Wyo					
Lander, Wyo	154	176	16	Fort Washakie	Lander, Wyo.
Reno:					
El Reno, Okla			5¼		
Fort Reno, Okla			39¼	El Reno	Anadarko.
Fort Sill, Okla	1,700		35	Anadarko	Fort Sill.
Du Cheane:					
Fort Du Cheane, Utah			23	Fort Du Cheane	23 Mile Pole.
Taylors Ranch, Utah			64	23 Mile Pole	Price.
Price, Utah	1,215	1,175			
Brownsville:					
Fort Brown, Tex				Fort Brown	Edinburg.
Santa Maria, Tex					
Edinburg, Tex			51	Edinburg	Fort Ringgold.
Fort Ringgold, Tex	2,537		49		

Bismarck section.—This section extends from Bismarck to Fort Yates, N. Dak., being 65 miles in length. The country along the line is hilly; the Missouri River is lined with the bluffs peculiar to it, but in North Dakota these bluffs extend back into a rough, broken, and almost mountainous country, gradually descending to plains in the east and rising through the "Bad Lands" to mountains in the west. The line crosses the river west from Bismarck, 5 miles, to Mandan, on Western Union Telegraph Company's poles, leaving the same at water tank and follows the road across river bottom and Hart River along foot of bluffs to Fort A. Lincoln, 6 miles, thence south across 6 miles of bottom land to Little Hart River, thence southeast 24 miles to Cannon Ball, across rough, high, rolling country. There is a telegraph office at Parkin's Ranch, Cannon Ball post-office. The country thence to Fort Yates is of the same rough, rolling character.

This line has been placed in thorough repair during the year, and will doubtless stand, with ordinary repairs, for another year. Six hundred poles were placed on the line during the fiscal year.

Fort Custer section.—This line is 60 miles in length and connects Fort Custer with the commercial line at Custer Station, Mont. No money has been expended on this line, except for the salary of the civilian operator at the transfer office at Custer Station. The line is kept in repair by details of troops from Fort Custer.

Fort McKinney section.—This line is 50 miles in length, extending from Fort McKinney to Powder River, Montana, and is a continuation of the Wyoming Inland Telegraph Company, connecting Fort McKinney and the town of Buffalo with the commercial telegraph at Douglas, Wyo.

The general direction of the Government line is south of east; the country traversed is rough, the line running just below the foothills of the Big Horn Mountains. There is but one cut-in, viz, at Trabing post-office, which is used as a testing station.

The cattle war in Johnson County, Wyo., during the spring of 1892, proved the value of this line for military purposes in spite of its almost unworkable condition. Owing to the great military necessity of this line and the difficulty of keeping it in its present position in thorough repair without great expense, it has been proposed to dismantle the line between Fort McKinney and Powder River and from the material recovered construct a shorter line to be operated as a telephone line to some station on the line of the Burlington and Missouri River Railroad in Nebraska, probably Buffalo.

Fort Washakie section.—On November 26, 1891, this line was abandoned for the winter owing to the difficulty of maintaining it without extensive repairs which could not then be made. During the winter arrangements were perfected whereby the line between Lander and Rawlings became the property of private parties and the remaining portion from Lander to Fort Washakie, Wyo., 16 miles in length, was put in operation as a telephone line. This plan went into effect April 1, 1892, and still continues, the Fort Washakie end being operated without expense by the post authorities, the transfer operator at Lander being paid $25 per month to handle Government messages. No commercial business is done on this line. The line is in poor condition and will soon require a general overhauling.

Fort Du Chesne section.—This line is 87 miles long and extends from Fort Du Chesne to Price, Utah, there being a repair station at Taylors Ranch, about halfway between the two extremities. The line enters the Wasatch Range in Soldiers Cañon, about 14 miles from Price, at the head of which cañon it probably attains its highest altitude above sea level, about 12,000 feet; at this point is a section of country some 2 miles in length where the snow falls to such depths as to block the road for days. After crossing the range, the line runs northeast down the Nine Mile Cañon for about 30 miles and thence towards the north through Gate Cañon (7 miles long) and across another divide 10,000 feet above the level of the sea and continues in a northerly direction through a broken hilly country to the Du Chesne River, which is crossed by a span 80 yards wide; from this point, the line takes an easterly course over rolling table-lands to Fort Du Chesne. Over six hundred iron poles were shipped to Taylors Ranch during the fall of 1891, but have not yet been placed on the line.

A general repair trip was made in November, 1891, by troops from Fort Du Chesne, but owing to the rough country through which the line runs much work is still required to place the line in first-class condition.

Fort Reno section.—This line is 80 miles in length and connects forts Reno and Sill, Okla., with the commercial line at El Reno. The country traversed is rolling, with very little woods. This section remained unchanged throughout the year, no general repairs having been made.

Arrangements are being made for dismantling the line between these two military posts and from the recovered material construct a telephone line between Fort Reno and El Reno and Fort Sill and Rush Springs, which will greatly reduce the labor of keeping the line in repair, and also prove a saving to the Government in other ways.

Fort Brown section.—This line connects Fort Ringgold, Tex., with the commercial line at Fort Brown, being 100 miles in length, with repair stations at Edinburg and Santa Maria. All repairs are made by troops except such as the operators at the repair stations can make. A special repair trip of thirty days' duration was made in March and April, 1892, under the supervision of a sergeant of the Signal Corps, with a detail of troops from the post.

Owing to the disturbed condition of the border along which the line runs its value in a military sense is great, and its continuous operation of the utmost importance to the Government. Owing to the great length of this line and its liability to be cut by marauding parties, thus suspending communication with Fort Ringgold, it is quite important that a second outlet should be had via Laredo, Tex., or other convenient point on the commercial lines. During the Garza troubles of 1891 the work on this line was nearly equal to its capacity, and it was then worth all or more than it cost.

The following table shows the amount of tolls collected on the United States mili-

tary telegraph lines of the Northwest division during the fiscal year ending June 30, 1892, which were covered into the United States Treasury:

Bismarck, N. Dak	$73.73
Fort Yates, N. Dak	86.64
Fort Custer, Mont	32.11
Custer Station, Mont	73.21
Fort McKinney, Wyo	310.73
Fort Washakie, Wyo*	82.21
Rawlins*	57.33
Fort Du Chesne, Utah	112.73
Taylors Ranch, Utah	10.69
Price, Utah	55.71
Fort Reno, Okla	190.88
Fort Sill, Okla	28.44
Fort Brown, Tex	628.96
Fort Ringgold, Tex	331.64
Making a total of	2,074.01

During the same period there were received for tolls on messages on account of the commercial lines the sum of $2,865.20, which moneys were turned over to the accounting officers of the companies interested.

The number of days on which the operation of sections was interrupted during the year is shown by the following table:

	Days.	Hours.
Bismarck—Yates section	30	6
Fort Custer section	23	6
Fort McKinney section	52	8
Fort Du Chesne section	35	0
Fort Washakie section	54	11
Fort Reno section	79	5
Fort Brown section	25	8

In this connection it is proper to compare the large amount of interruption at stations on the military telegraph lines having but one outlet and those having two. The comparison shows the great importance, it would be well to say, absolute necessity, for double outlets at all important points.

The average interruptions at stations having but one outlet is thirty-four days and nine hours, while at those having double outlets the average is but one day and seven and a half hours. When the difficulty of maintaining prompt and efficient service on a line like the Fort Brown-Ringgold section is considered, the value of a second outlet becomes manifest.

The following table shows the sections comprising the Arizona division of United States military telegraph lines, with miscellaneous information relating thereto:

HOLBROOK, FORT BOWIE STATION.

Stations.	No. of iron poles on line.	No. of wooden poles on line.	Repair sections. From—	Repair sections. To—	Miles.
Holbrook, Ariz			Holbrook	Snowflake	24½
Cooleys, Ariz	1,398		Snowflake	Fort Apache	58
Fort Apache, Ariz	380		Fort Apache	Summit	35
San Carlos, Ariz	1,691	3	Summit	Subagency	58
Fort Thomas, Ariz	166	540	Subagency	Cedar Springs	40
Fort Grant, Ariz	694	106	Cedar Springs	Willcox	47
Willcox	470	4	None	None	
Fort Bowie, Ariz	532		Willcox	Fort Bowie	29
Total	5,331	653			291½

CARTHAGE, FORT STANTON DISTRICT.

Fort Stanton, N. Mex			Fort Stanton	Mountain Station	70
Carthage, N. Mex	1,556		Mountain Station	Carthage	26
Total	1,556				96

* Prior to operation as a telephone line.

An examination of the table will show that the total number of miles of government lines in Arizona is 291¼ and in New Mexico, 96.

The telegraph lines of this department have been more effective and their operation more satisfactory during the past year than in years immediately preceding; for example, the aggregate of total interruptions at all stations in 1892 was but 77 days as against 164 in 1891 and 137 in 1890, and the total number of days when communication was cut off from department headquarters by reason of the line being down both sides of the station was 20 days. This result is the effect of the hearty coöperation of Gen. Alexander McDowell McCook, the department commander, by whom details of troops were made from time to time as required for general repairs which were performed under the supervision of sergeants of the Signal Corps, who are naturally interested in their work and grasp the important fact that workman-like repairs make fewer trips necessary.

The principal general repairs made were as follows: Fort Stanton, Carthage section, in October, 1891, at which time the line was given a general overhauling and placed in good condition for the winter. From Holbrook to Fort Apache in November, 1891, when all poles were straightened and branches of trees removed that endangered the stability of the line; 700 foot rests were also put on the line which were not available when the line was constructed. From Fort Thomas to San Carlos in March, 1892, by the Signal Corps sergeant, and by a detail of troops in April, 1892, from San Carlos to Summit, which portion of the line had not been overhauled since it was built two years previous. In June, 1892, a sergeant of the Signal Corps and two troopers went over the line from Fort Apache to Willcox, Ariz., carefully following the line throughout its entire length, making needful and urgent repairs, counting the number of supports, whether iron or wooden, and furnishing a valuable detailed report of the condition of the line.

The span across the Little Colorado River at Holbrook, Ariz., which had caused considerable trouble and interruption of communication through the washing away of the banks as the channel of the river changed, was permanently repaired November, 1891.

The loop connecting Snowflake, Ariz., with the Holbrook-Apache line was finally built in November, 1891. Seven coils of No. 9 wire and 33 wooden poles and cross arms and 66 brackets and insulators were used. The office at Snowflake is maintained as a substation of Holbrook without cost to the Government.

A sufficient number of iron poles are being collected at Fort Grant to replace the wooden poles between San Carlos and Willcox, which will be done during the early part of the coming fiscal year at which time a needless detour between Forts Thomas and Grant will be taken out, thereby shortening the line.

Many insulators have been broken on the lines of this division by being made targets of by unscrupulous freighters and others; a number of posters were thereupon placed at various points along the line, containing the act of Congress prohibiting interference with Government telegraph lines.

The following table shows the amount of cash receipts on the United States military telegraph lines of the Arizona division during the fiscal year ending June 30, 1892:

Carthage, N. Mex	$66.86
Holbrook, Ariz	40.35
Fort Apache, Ariz	120.16
Fort Bowie, Ariz	26.98
Fort Grant, Ariz	150.87
Fort Stanton, N. Mex	69.16
Fort Thomas, Ariz	119.67
San Carlos, Ariz	227.48
Willcox, Ariz	317.22
Total	1,138.70

which amount was covered into the United States Treasury.

During the same period $2,558.75 were collected for tolls on account of the commercial telegraph companies and turned over to the proper officials of the companies.

The money value of free messages transmitted over the lines of this division amount to $3,741.52, making a total of $7,438.97 collected. During the year an aggregate of 39,076 messages were handled.

The following table shows the number of days and hours of interruption on the lines of this division during the year:

	Days.	Hours.
Holbrook to Fort Apache	16	10
Fort Apache to San Carlos	31	16
San Carlos to Fort Thomas	13	6
Fort Thomas to Fort Grant	2	20
Fort Grant to Fort Bowie	3	17
Carthage to Fort Stanton	9	2

MISCELLANEOUS MILITARY TELEGRAPH LINES.

In addition to the Government lines mentioned, there are a few short lines built and maintained with Signal Corps material for the purpose of affording certain military posts remote from commercial lines communication by wire in cases of urgency.

Fort Bayard, N. Mex., is connected by a line 10 miles long with Silver City, N. Mex. This line is operated by the post authorities.

Fort Wingate, N. Mex., is connected with Wingate Station, 3 miles distant.

Fort Clark. Texas, is connected by a line 10 miles long with Spofford Junction, Texas. A sergeant of the Signal Corps is stationed at Fort Clark, in charge of the telegraph office.

Fort Niobrara, Nebr., is in communication with the commercial lines by a telephone line to Valentine, Nebr., at which point the Government business is handled by a transfer operator, the terminal at Fort Niobrara being operated by military authorities.

Fort Supply, Indian Territory, is connected with Woodward, a station on the line of the Southern Kansas Railroad, 15 miles distant.

The telegraph line connecting Fort Spokane and Davenport, Wash., having been considered by the Secretary of War to be temporarily a military necessity, has been kept in repair by the troops stationed at Fort Spokane, in return for which, all Government messages between Spokane City and Fort Spokane are handled free of charge. This Bureau has spent small sums for poles during the past year in order to keep the line standing. The temporary arrangement concerning this line will terminate im April, 1893.

There are also short loops or cut-ins at the military posts of Fort Sully, S. Dak.; Fort Assinniboine, Mont.; Fort Snelling, Minn.; at Headquarters, Department of Texas, San Antonio; Headquarters, Department of the East; Governor's Island, New York; Headquarters, Department of California, San Francisco; Headquarters, Department of the Columbia; Vancouver Barracks, Wash.; all of which are operated by sergeants of the Signal Corps.

MILITARY TELEGRAPHIC LINES AND CABLE SYSTEM OF THE HARBOR OF SAN FRANCISCO.

The telegraph line connecting military posts in the harbor of San Francisco remained in good working order from July 1 to August 13, 1891, upon which date the officials of the Weather Bureau, Department of Agriculture, cut out a portion of the line and communication was interrupted. Steps were then taken to restore communication, and to this end a new single-conductor cable was laid on December 2, 1891, between Fort Mason and Alcatraz Island; the land lines were repaired between December 3 and 14, and upon the latter date direct communication was again re-established and remained unbroken until January 12, 1892, when the ship *County of Edinburg* dragged anchor across the new cable and broke it. Steps were taken to fix the responsibility for the damage upon the owners of the vessel, and efforts were made, with the assistance of a tug furnished by the ship, to repair the cable, but it was found impracticable to do so. The line was then divided into two sections, which have since been operated separately, viz: The Alcatraz-Tiburon section, with Angel Island as an intermediate office, which plan gives an outlet to the commercial line at Tiburon and the San Francisco-Presidio-Fort Mason section. Comparatively few repairs have been necessary during the year.

The cable between Alcatraz and Angel islands has remained in good working order and all three conductors are serviceable.

The Angel Island-Tiburon cable contains but one good conductor, and it is thought that this cable is in such poor condition that this remaining conductor will soon be lost.

In order to maintain certain and reliable communication between the harbor defences of San Francisco the laying of a heavily-armored cable between Fort Mason and Alcatraz Island is absolutely essential, and until this is done it is not deemed advisable to recommend any expenditures, beyond ordinary repair work, on the old lines.

The sum of $338.22 was expended during the year in placing the lines in operation, which amount includes $70 expended in connection with the laying of a new single-conductor cable. The cable system and land lines are operated by sergeants of the Signal Corps stationed at department headquarters, Fort Mason, and Angel Island. The transfer operator at Tiburon is paid $15 per month for the handling of Government messages.

A copy of Lieut. Greene's report upon the construction, maintenance, and dismantling of the field telegraph line from Separ, N. Mex., to the monument on the boundary between the United States and Mexico, constructed at the request of the United States Boundary Commission, is appended hereto. This report is full of information and suggestions for the improvement of the field-telegraph train, which deserve attention.

Very respectfully,

C. E. KILBOURNE,
Captain, Signal Corps, Telegraph Officer.

The CHIEF SIGNAL OFFICER OF THE ARMY.

HEADQUARTERS DEPARTMENT OF ARIZONA,
OFFICE OF THE CHIEF SIGNAL OFFICER,
Los Angeles, Cal., June 28, 1892.

SIR: I have the honor to make the following report upon the recent construction, maintenance, and dismantling of a field-telegraph line from Spear, N. Mex., to the monument marking the 100-mile limit west of El Paso, Tex., upon the international boundary between the United States and Mexico, viz:

This line was constructed from signal material at the request of the International Boundary Commission upon the part of the United States for the purpose of determining by means of astronomical time observations the exact longitude of the monument, the field-telegraph line being used to connect the chronograph in the field observatory at the monument directly with that of the observatory at El Paso, and for the interchange of chronometer time signals.

Upon the receipt of your telegram of April 3, 1892, asking if the general commanding this department would coöperate in the proposed undertaking, I laid the matter before him and was directed to assure you of his cordial assistance, with my own services, and the detail and furnishing of the necessary troops and transportation, which was contained in my telegram to you of April 4.

Upon the receipt of your telegram of April 8, informing me that the Secretary of War had formally approved the proposed construction, which I at once laid before the department commander, Special Order No. 43 was issued on April 9 directing me to proceed upon the duty contemplated, and Special Order No. 46 was issued on April 13 providing for the detail of a company of infantry from Fort Bayard for the construction party.

The president of the commission having signified his desire that the line be constructed from Separ instead of from Deming, N. Mex., as originally intended and ordered, and upon consulting the maps, the route from Separ appearing to be much shorter and as viewed from a topographical standpoint more feasible, upon my application Special Order No. 47 was issued amending all former orders upon the subject by substituting Separ for Deming.

It appearing by April 19 that the material should soon begin to arrive, and having in mind the desire of the department commander that the troops should not be called for before their presence at the field of operations was required, I, having made due preparations for the routine work of my office, left Los Angeles, Cal., for Separ, N. Mex.

The original shipment of the greater part of the material, gathered as it was from Forts Riley and Leavenworth, Kans.; Worcester, Mass.; New York City, and Washington, D. C., had been to Deming, and it was necessary to take prompt and effective steps to divert the shipments to Spear and to forward to that point that which had already reached Deming.

Upon reaching Separ on April 20 it was found that no material had yet arrived, nor was anything known of it. I then proceeded to Deming to look after the material, and to Fort Bayard to procure and select such tools, etc., as were to be provided from that post, to superintend the construction of a wire reel, and to confer with the post and company commanders respecting the troops to be furnished.

Returning to Deming on April 26, I found the lances, tools, battery material, and 10 miles of the wire had arrived, and took steps for their prompt reshipment and forwarding to Separ, as well as for any and all material consigned to me that should subsequently arrive. I also found here three signal sergeants who had been sent from Fort Riley, and who were without further means of transportation; their status was reported to department headquarters by telegraph, when Special Order No. 51 was issued providing transportation, and telegraphic notice given both to the railroad company and myself, when they were enabled to proceed to Separ on April 27.

The monument lies 29 miles south of Separ and 11 miles east therefrom; the distance by the road is 42 miles. I left Separ mounted on the morning of April 28 and rode over the road via Hachita to the camp of the commission at the monument, Resting one day, I returned, accompanied by one trooper, to Separ, avoiding the road and seeking the most direct route across country and the one that promised the softest ground and the least rock.

Upon comparison of the two routes it was found that, while that via Hachita was along a well-defined hard beaten road, with the advantage of an abundant supply of rather poor water at Hachita, the ground was hard and the road laid for part of its way near the mountains. Rock croppings were frequent. Upon the other hand, the route across country, although absolutely devoid of water, was 7 miles the shortest. Most of it was in alluvial wash with but little rock, much of which could be avoided by timely detours The latter route was then determined upon, the question of water being met by the furnishing of a 400-gallon wheeled tank and team by the commission to provide water for the men and animals at the few necessary camps. By diligent telegraphic inquiry from Separ I obtained trace of the wire and insu-

lators, with the probable time of their arrival, and accordingly upon May 4 I requested that the infantry company be started from Fort Bayard. This was so well timed that they arrived at Separ at nightfall of May 6, upon the same train with the wire. The next day the company had gotten shaken together ready for the work, and the insulators arrived.

On Sunday, May 8, I instructed the men of the company (D, Twenty-fourth Infantry) and four signal sergeants in their individual duties, selected the right men for the different places, and in general showed how the work was to be done, erecting a short stretch of wire for an illustration.

Previous to this I had been furnished with four mule teams and wagons by the commission. The quartermaster of the commission accompanied them in person, and by his indefatigable exertions contributed much to the success of the expedition. This independent transportation, not being subject to any calls other than purely construction duty, was always on hand when needed, and a serious and ever recurring vexation of finding the needed train wagons loaded down with camp equipage, which I have encountered in all previous telegraph duty, was in this case happily avoided; the expedition learned to go light. While awaiting the arrival of all the material, I had one-half of the whole number of lances and then one-half of the wire hauled out to a point nearly midway of the line and there piled; this was then picked up as the construction reached that point. The actual work of construction began early on Monday morning, May 9. I was heartily in accord with your desire, expressed in your letter of April 15, that the line should be constructed and in working order within forty-eight hours of the time of beginning the work, not less as an exemplification of what uninstructed troops in this department could do than is shown what the Signal Corps, with instructed and drilled men accustomed to the duty, might do. While for various reasons this could not even be attempted, enough was performed to make clear to me its perfect feasibility with a signal detachment proper and alone.

The construction of the field-telegraph line—the first of its kind for actual use and not for drill, I believe, since the suppression of the rebellion—differs widely from that of the ordinary or permanent telegraph line, in that the material composing it is much lighter, the supports are not planted to so great a depth, and it must be more readily erected. The supports used were the regulation lances of pine wood, 17 feet long by 2 inches in diameter, pointed at the lower end and iron shod at the upper end to receive the shank of the insulator. The insulators were of hard rubber, bell shaped, 3 inches high by 1¼ inches in diameter at the largest (lower) end, one-fourth of which were provided with an iron clamp which screwed into the upper end and held the wire from rendering through, the remaining three-fourths having a notch through the upper end which allowed the wire to pull through readily. All were provided with an iron shank which screwed into the head of the lance. The lance with its insulator weighed about 9¾ pounds.

The wire used was galvanized iron of No. 14 gauge, weighing 95 pounds per mile, the ordinarily used No. 9 wire weighing about 310 pounds per mile.

The tools used were iron crowbars having the lower 2 feet squared. With the single exception that the director and the markers were not used, and this on account of the open nature of the ground to be traversed, the general arrangement of the men and the methods of construction differed but slightly, and that in minor unimportant features, from those laid down by Gen. A. J. Myer, the first Chief Signal Officer of the Army, in his Manual of Signals. The methods were followed because it was found that for speedy work, with the mutual coöperation of the different parts of the whole, they could not be improved upon.

The working party was divided as follows:

	Signal sergeants.	Infantry men.	Noncommissioned officers of infantry.
Surveyors and chainmen	1	1	.....
Pinmen	.....	3	1
Barmen	.....	10	1
Lancemen:			
With truck	.....	2	1
Erecting lances	1	2	.....
Wiremen	.....	4	.....
Wirewagon	1	2	.....
Insulatormen	.....	1	.....
Operators	1	.....	.....
Total	4	25	3

Being myself the only individual present with the command who had ever been engaged in or seen the train drill, or had ever been over the route to be followed, I naturally gave all parts of the duty my personal attention. My usual plan was to ride ahead and make sure that the character of the ground was favorable and that the surveyors were adhering closely to the given direction. Returning then towards the rear of the long strung out line of workers, the work of the pinmen, barmen, lancetruckmen, wiremen, and, finally, the lancemen, was closely inspected as the different parties passed in succession.

The lance wagons being loaded with three hundred and fifty lances each, carrying also their proportion of the wire, the reel, and some twelve coils of wire being in the wire wagon, the barmen equipped with their bars, the pinmen with marking pins having a white cloth in the loop at the upper end, the construction proceeded as follows, viz: Selecting a prominent peak in the direction to be followed by the line, the surveyor was directed to constantly align the chainman upon it. These two men carried the end of a wire chain 55 yards long, that being the distance determined upon, allowing thirty-two lances to the mile. This distance was determined by the probable length of the line to be built and the number of lances available, making due allowance for breakage and unforeseen divergences from the proposed line to be followed.

At each 55 yards a marking pin was stuck and the first barman began to make the hole, working his bar down and making a hole large enough to receive the lance, the work being taken up at each pin by successive barmen. The lancetruck followed, delivering a lance at each hole, the pin being left standing as a guide. Every fourth lance was fitted with a clamp insulator, the other three with notch insulators; these latter not serving their purpose well small loops of wire were used in their stead, which plan was satisfactory in the very dry climate of New Mexico, but could not have been adopted had the atmosphere been moist or rain feared.

Following about 300 yards behind the lancetruck came the wire wagon, closely following the line of holes so as to avoid delivering slack wire. The wire wagon was followed at a distance of about 250 yards by the lancemen, who erected the lances, tightened the wire, and completed the line as they went.

At first difficulty was encountered in making the holes. The ground being very dry the loose dirt filled up the hole as the bar was withdrawn. This was overcome in a measure by cutting an iron pole into 3-foot lengths and driving it into the ground with blows of a sledge hammer. Withdrawing the tube a clean hole was left. As the lower part of the tube became dulled and a clean hole could not be cut the dirt often slid down as the tube was withdrawn, and this plan was abandoned and recourse was again had to the bar, and the ground soon becoming softer with an almost imperceptible dampness, this, with the skill and knack soon acquired by the men, resulted in the production of passable holes. Notwithstanding all the discouragements and disadvantages of the first day, nearly 12 miles were completed within eight hours of sticking the first pin, and the capacity of the expedition was demonstrated. As the camp remained at Separ it was not advisable to endeavor to do more that day, the weather being very hot and no water save that carried on the wagons to be had, so the working party were loaded on the emptied wagons and moved back to Separ. After this the precaution was taken to strike tents at daylight and leave a small party to load the camp equipage into the company wagon, which went ahead of the work to the probable camp of the night and there unloaded, the working party working into camp instead of going back. The second day, May 10, what with a long march and moving camp, but 1¼ miles were erected, as the commissioners had given notice that they would not be ready for time observations until the 14th of May, and I had been obliged to abandon the endeavor to construct the line in a time shorter than previous records. From this time the work was of short hours and without fatigue to the working parties.

The commission having furnished a 400 gallon water wagon which reported full each day, camp could be made anywhere. All points were equally inhospitable and dusty. There had been no rain in that region for upwards of two years. The fuel used was principally dried soapweed.

On May 11 8 miles were constructed in six hours work, from 6 a. m. to noon.

On May 12, 7½ miles in five and one-half hours, from 6 a. m. to 11.30 a. m.

The line was completed and communication at once established with Separ at 10 a. m. of May 13, with 5½ miles constructed in four hours work.

Altogether the actual working time was but twenty-five hours, the length of the line a little over 34 miles.

Application had been made to the commissioners for the detail of cavalry patrols from the escort, to ride the whole length of the line daily so as to insure that it would be in working order each night when wanted. There was a small detachment of a troop A, Second Cavalry, at Hachita, N. Mex., a point nearly opposite the center of the line and some 6 miles west of it. From this detachment two parties of two men each started about 2 p. m., and dividing at the center of the line one patrol

rode the line to Separ, the other to the monument, examining its condition and remedying any discovered faults. These patrols remained at the ends of the line at Separ and the monument until 2 p. m. of the next day, when they started toward the center, met and rejoined camp at Hachita, issuing thencefrom on the succeeding day and proceeding as before. By this method the line was patrolled daily within a few hours of the time that astronomical observations were begun—and, in short, the line was in constant working order from the moment of its completion until dismantling begun, but ten lances being reported down out of over one thousand, although violent winds blew daily in a direction across that of the line. Eight of the ten were probably rubbed down by a small bunch of cattle that frequented a locality.

By coöperation between the commission and the Western Union Telegraph Company, and the Southern Pacific Railroad Company, a clear wire was given daily at 8 p. m., to which the military wire at Separ was directly connected, and an uninterrupted circuit between the two observatories thus maintained. The line was used on the nights of May 14, 15, 16, and 17. At the close of operations on the latter date and the interchange of results between the two observatories, the commissioners informed me that the results were eminently satisfactory, and that no further service was required from the line. At once the signal sergeants were engaged in dismantling, cleaning, and packing for shipment, the battery. This was completed at midnight. Reveille sounded at 4 a. m. of May 18, and by sunrise the work of recovering the wire and material had proceeded out of sight of the camp of the commission; the telegraph had come and gone.

The distribution of the recovering party was as follows:

	Signal sergeants.	Infantry men.	Noncommissioned officers of infantry.
Taking down lances	1	4	.....
Removing lances from wagon truck	.....	2	.....
Gathering insulators	.....	1	.....
Cutting off wire loops	.....	1	.....
Keeping wire clear behind	.....	.....	1
Wire wagon	.....	3	.....
Reeling wire	.....	2	.....
Making coils	2	.....	.....
Total	3	13	1

No larger force than this could be used, as the wire was to be reeled up so as to be in good condition for use again at any time as when originally received, and to do this required care and time. With this in view the lances were not allowed to be taken down more than ten lances in advance of the wire wagon. The commissioners' transportation being engaged in moving the main camp southward from the monument, but one wagon—the wire wagon—could be furnished; the others were to follow two days afterward, collecting the material, all of which was faithfully done. The wire was carefully reeled in compact coils of one half mile each, cutting the wire only at the originally made splices. It was then tightly stopped with four double wire ties, and each tie connected with the others by a long wire encircling the outer circumference of the coil, to keep them equidistant from each other. The insulators were gathered and placed in the wire wagon as their weight became burdensome. The lances were taken out of the wagon track and placed crosswise of the line of march with one end elevated upon a soap-weed, mesquite bush, or whatever offered, so that the possibility of missing any by the picking up lance-trucks could be minimized. The teamsters afterwards said this occasioned extra work in loading, but they missed no lances.

When twelve coils of wire were made and their room in the wire wagon was needed, they were piled in the middle of the wagon track making a cylinder 4 or 5 feet high, and a lance planted in its center with a distinguishing mark upon it. None were lost. The unoccupied men of the company remained behind after the working party left camp—to break camp and load the company wagon—after which they moved forward and pitched camp where it was intended to remain that night.

May 18 twenty-three coils or 11½ miles were recovered in nine hours, and on May 19 twenty-two coils or 11 miles were recovered in seven hours; and on May 20 the remaining twenty-three coils or 11½ miles were recovered in eight hours.

May 21 and 22, while awaiting the arrival of the wagons with the lances and wire with other material, were occupied in preparation for loading the material, securing cars, etc., packing all small material brought in, and in general preparations for departure of the whole expedition with its material.

May 23 all of the recovered material arrived and was at once loaded into the cars,

properly selected, marked, weighed, and billed to the points that had been designated to receive it. Thus in seventeen days the company thus forming a signal train had arrived, unloaded the material, erected, maintained until no longer required the line, dismantled, recovered, and shipped the material. The duty being complete I dispatched the signal sergeants to Fort Riley, Kans., and Los Angeles, Cal., and took car myself for Los Angeles upon the 23d of May. The company left at daylight of May 24 to march to its station, Fort Bayard, N. Mex. Sufficient material to construct and operate a field telegraph line 15 miles long was reserved and shipped to Fort Grant. The signal detachment and the men of the infantry company worked faithfully, hard, and well. The company officers, Capt. and Bvt. Maj. J. N. Morgan and Second Lieut. H. C. Keene, jr., Company D, Twenty-fourth Infantry, rendered me much valuable personal assistance. That troops entirely unacquainted with the duty should accustom themselves to and perform the duty as this was done is creditable to the troops in this department.

In the course of the construction the following conclusions were arrived at and are the result of close attention to all details of the work.

TOOLS.

Pacing, especially over broken ground or slippery grass, besides fatiguing the individual, is apt, in the course of a long march, to become unreliable, and I think that a light chain, long enough, or a piece of dead wire, preferable. I used a wire of this kind 55 yards long which was tightened up as the leader was aligned, and the pin stuck between his heels. In the very few curves in this line the wire was tightened out in the given direction and the pin stuck at some designated point, say 40, 35, or as many yards as desired, from the follower.

The marking pins furnished were satisfactory; some worn white cotton was procured, torn into strips and tied in the loops, to make the pins conspicuous.

With very few exceptions, and those in the character of the soil, the signal service bar as furnished worked very well. In constant work they should occasionally be sharpened at the point, taking great care not to draw the temper, as, when they become dull, there is a tendency to pack the dirt at the depth of about a foot instead of penetrating it. At the outset from Separ there was encountered a peculiar hard packed dry soil full of small broken rock, something like gravel, in which the bar could not be worked down, and if a larger hole was made at the surface attempting afterwards to work down a smaller one, the dry dirt sifted down and filled the hole as the bar was withdrawn.

At the suggestion of Maj. Logan, I cut some iron telegraph poles into 3-foot lengths and drove these tubes down by blows from sledges; after driving down a foot the tube was withdrawn and the dirt knocked out, then the tube was driven down another foot and withdrawn, leaving an excellent, clean hole. The sledges soon curled over the tops of the tubes, and having a smaller face than the diameter of the tube, they had to be struck with the side and not the face—resulting very soon in breaking all the handles that could be obtained. If an attempt was made to start the hole with either bar or shovel the dry dust followed down with the tube and when the latter was withdrawn the dirt fell back into the hole again; as the lower edges of the tubes dulled, grinding instead of piercing the soil, the same result followed. It is worth while to experiment in this direction by procuring a few steel tubes, about 3 feet long, of the same diameter as the iron pole, having the lower end chamfered and the upper reinforced and flattened so as not to cut the face of a hickory maul iron banded, such as are used to drive wedges in splitting rails; in tough damp soil free from stone they would probably surpass the crowbar.

The lances are all that can be desired. I prefer the hole through the top so as to use a swinging insulator rather than screwing the insulator into the top. It should be stated that these lances, many of them, were very old; some are warped and dry-rotted; they should be replaced by new ones from time to time and a certain specification decided upon and adhered to; as it is, the style, make and size vary somewhat.

With the insulators the greatest fault is to be found; I believe they should all be pendant. When screwed into the top of the lance there is no give, and there is a tendency for the clamp to break out through the sides of the rubber; the clamp itself makes an ugly bend in the wire that does not come out when recovered and suggests breakage. It is, however, very efficient and easily used and can never get out of order and probably should be left alone, although a screw clamp could be devised and tested.

The notch insulators prove to be failures and I did not use them; the entrance notch in the new ones would not take the wire without beating it in with the pliers; as this invariably resulted in nicking the wire I was compelled to forbid their use; instead I had a small loop, say 4 inches long, of the line wire put in the head of

three out of four lances through whch the wire rendered; this was all very well in New Mexico, but would do in few other sections.

The older notch insulators, of which I had sixty-five, gave still more trouble than the new ones; the whole notch was so large that upon erecting the lance the wire frequently jumped out; when the lance was taken down to replace the wire the dry dirt partly filled the hole, and if the bar men were too far in advance to readily get one to dig a new hole, the consequence was a lance but poorly planted. There was formerly used a form of insulator called, I think, the suspender-hook insulator, having a wire hook that would encircle the line wire once and a half times and out of which the wire rarely if ever jumped while it still rendered through readily; such an insulator would, in my opinion, be of more service than the notch insulator.

This service is not yet provided with a properly perfected wire reel, at least one which is to be used with wire taken from ordinary coils. I have spent much time in devising and perfecting a reel and frame that will reel out and up with great facility and rapidity provided that a skeleton bobbin is used for each coil of wire, and this working model was sent me for use, but as it was provided with but one bobbin the diameter of which was smaller than the coils as received from the factory, it could not be used. I had constructed at Fort Bayard a reel working upon a horizontal axis which I hoped would prove serviceable and satisfactory, but on account of the wire furnished not being dead or killed, as soon as a coil was put upon the reel the arms opened out, and an attempt made to reel out the wire sprung out to so great a diameter as to fall over the arms and entangle around the axle, so that I was obliged to fall back upon the old style of reel on a hand barrow, with its axis perpendicular. The reel made at Fort Bayard answered very well to recover the wire, but at the present moment it seems to me that for unkilled wire recourse must be had in reeling out to the old style of reel. Whether or not it is worth while to devise a reel that will work with its axis either perpendicular or horizontal is for experiment and determination, a matter that should be attended to and solved without delay.

The wire was of excellent quality and fulfilled every requirement, as did the square Eagle battery in this instance. There are now manufactured dry batteries which, if provided fresh or some means were furnished for readily recharging them, should take the place of the Eagle; this also should be attended to. I think it better, whenever practicable, to use a relay, key and sounder, with a cell of local battery rather than the box sounder. Many persons, and some of whom are fair telegraph operators, are bothered and often unable to distinguish between the back and front stroke, especially when the battery is weak and the spring strong.

The rule given in Myer's Manual to plant lances at 53 steps (of 28 inches) apart, or nearly 43 to a mile, gives in open country on straight stretches too many lances to a mile. I gave a space of 55 yards between lances, making 32 to a mile, because my number was limited and it was absolutely necessary that the lances should hold out.

When the line was built and there was time to inspect different parts of it it seemed to me that any greater number would have been unnecessary. The line stood up strong and straight, with a solid, permanent appearance, notwithstanding violent winds from the west blowing across its direction of length for hours of each day, and might well, with patrols, have stood a year. I found it best, except at angles, to stretch the wire quite tight. This made the line, so to say, all in one piece, and any weaker parts might be assisted by the stronger parts.

The line worked well at all times. The ground bars as furnished were satisfactory. In driving them down in tough ground the precaution should be taken to remove the binding screws to avoid breaking them off by a glancing blow of the sledge or ax. It was found that the line worked better with the battery at the outer limit where the delicate instruments of the commission were in circuit. Ground was found readily in any of the dry washes, even though no moisture was perceptible, by driving the ground bar well down and pouring a few buckets of water in a hollow immediately around the bar.

The tranportation intended for the material should not be used for any other purpose. If a beginning is once made to divert the wagons to the use of the construction party to carry equipage, to go for rations, forage, etc., it will inevitably occur that the construction will be suspended for a day to assist in moving camp; the construction detail can always be provided with its own transportation if insisted upon.

Mounted patrols are a necessity. They should go in pairs, that one may hold the horses if necessary. With good wire in open country in peaceful times they do not need to be burdened with tools; the picket pin and the hands can scoop out a temporary rest for the lance foot; a little wire, a pair of pliers, and a couple of insulators, are all that is needed.

Signal detachments, large or small, should be inspected before going into the field, to see that they are properly equipped and provided. They should have the army campaign shoe, changes of stockings, meat ration, can, cup, spoon, knife and fork,

and above all, in hot climates, a canteen. If not so provided they will be subject to annoyance and suffering.

A map,* showing the trace of the field telegraph line and the general features of the country traversed, is inclosed herewith.

Very respectfully, your obedient servant,

FRANK GREENE,
First Lieutenant, Signal Corps,
Chief Signal Officer, Department of Arizona.

The CHIEF SIGNAL OFFICER, U. S. ARMY,
Washington, D. C.

APPENDIX B.

REPORT ON MILITARY BALLOON EQUIPMENT.

CHICAGO, *October 27, 1892.*

SIR: In exhibition ascensions by civilian aëronauts throughout the country, coa gas is the buoyant medium most commonly used, since it may be conveniently obtained at many places and is relatively cheap. Its lifting power, however, is but 35 pounds per 1,000 cubic feet as against 65 pounds for hydrogen, a buoyancy margin so decidedly in favor of the latter as to materially affect the question of transportation and operate conclusively in favor of its use for military purposes. The most common method of generating hydrogen is by the action of dilute sulphuric acid on zinc or iron, zinc giving the purer and therefore the lighter gas. One hundred pounds of acid and 140 pounds of zinc, approximately, are required for the generation of 1,000 cubic feet of hydrogen. It is therefore necessary, in obtaining the gas for a single inflation of the 16,000-foot balloon, to use nearly 2 tons weight of these materials. Happily it is not necessary to cart this around. In fact, it is practicable not only to relegate the generator and materials to a position sufficiently well to the rear to admit of deliberation in the various processes of preparing the gas, but temporary independence of the gas supply even is possible. This independence is accomplished by storing the hydrogen in steel tubes, under great pressure, so that the charge for a balloon may be carried upon a few wagons.

The balloon train comprises three wagons for the carriage of the tubes and one wagon for the balloon and appliances for handling.

The running gear of the wagons is substantially assembled and topped with a rigid platform resting on stiff springs.

The axles are of such dimensions and design as to accommodate the escort wagon wheel in emergency. The front wheels are, however, reduced from the escort size so as to underrun the platform and permit short turns to be made.

The platform of the tube wagon bears a strong framework constructed to carry horizontally forty-five steel tubes, each weighing 70 pounds. Attached to the framework at the rear end of the wagon is a receiver to which each of the tubes may be connected, and into which each may be discharged for common feeding of the balloon. To the rear face of the receiver is secured a discharge pipe, its office being to permit and control the flow of gas from the receiver to the balloon through the medium of a hose which screws to the pipe.

Tubes.—The steel tubes to be carried on the wagons are 8 feet long, 5¼ inches in exterior diameter, weigh 70 pounds each, have a normal interior capacity of 1 cubic foot, are capable of withstanding a pressure of 200 atmospheres (3,000 pounds to the square inch) and are fitted with strong gas-proof valves to regulate the outflow. It is intended that ordinarily they shall carry gas at a pressure of 120 atmospheres. Under this charge it will require 108 tubes to inflate the smaller two-man balloon) 133 the larger. The three wagons will bear 135 tubes (45 each); the weight of each load will therefore be (45×70 pounds) 3,150 pounds. A reserve of 45 tubes to each wagon is provided that those exhausted of their charge may be replaced and the equipment be always in serviceable condition. Each wagon is also provided with appropriate tools and fittings, a regulator for controlling the flow of gas at a uniform pressure, a gauge for showing the amount of gas in the tube, and a connector for simultaneously coupling both gauge and regulator to the tube. The tubes are not dependent on any special device for carriage, but may be hauled on ordinary wagons or carried by pack, and may lie on the ground while delivering to the balloon.

The balloon wagon.—The platform of the balloon wagon bears two boxes or limber chests, one at the front end, the other disposed sufficiently far to the rear of the first

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* Map not reproduced.

as to admit of the seating of men on both chests without uncomfortable interference from the balloon packed in its basket, which is to be carried between the chests.

Upon the rear end of the platform a rigid frame is set up which bears a drum on which is wound the captive rope. This drum is arranged with a brake, handle for reeling up, and device for automatically laying the rope uniformly. The drum and standard are designed to withstand a strain of 2,000 pounds upon the rope.

The cable.—The captive rope performs the double office of anchor rope and telephone cable. It is constructed with an insulated core, of several copper wires, and a hemp cover intertwisted with return wires, and is so strenthened as to resist a tensile strain of 2,000 pounds without breaking or short circuiting. It is of as small diameter and as light as is consistent with the required strength and sufficiently pliable to admit of winding upon the drum.

The balloon.—The envelope of the balloon, when distended, is of spherical shape, with slight elongation at the neck. It is constructed of two thicknesses of light, durable, closely woven silk, cemented together and coated on both exposed surfaces with india rubber so prepared and applied that, without the addition of undue weight, the fabric is reasonably impervious to hydrogen, the finish of the rubber being such as to obviate any tendency to stick when folded.

The envelope is strengthened by added thicknesses of material at the top and bottom by stays at intervals, and by assembling segments in blocks.

The mouth of the balloon expands to an opening 2 feet in diameter to allow of rapid discharge.

The netting is constructed of cotton twine. The meshes cover two-thirds of the balloon, beginning with a hundred 3-inch ones at the top, and increasing symmetrically in size to the center, thence downward the size is retained, the number diminishing to conform to decreasing size of balloon. The top of the netting is attached to the ring of the valve, the bottom to the concentrating ring from which the car is suspended, the various connections being made by strong snap-hooks which may be readily unfastened but are not liable to become accidentally detached.

The concentrating ring bears the strain of holding the balloon captive in such manner that the equilibrium of the car is not greatly disturbed.

The car is of willow wickerwork, light and strong, 45 inches long and 30 inches wide at the top and 30 inches deep, with bulging sides and ends that run under and form part of the bottom.

The copper valve, consisting of a rim, crosspiece, bridge, and two clappers closed with rubber springs, is inserted in a leather collar at the junction of the gores at the top of the balloon. It has a 12-inch opening, and, through the medium of a cord attached by staples on the under side of the clappers and descending thence to the car, the observer may discharge the gas at will.

Capacity.—The size of the balloon best suited to military use is dependent on varying conditions. On a quiet day the smallest possible balloon that will ascend promptly, carrying the weight of two men, its envelope and fittings, the captive rope, supply of ballast, etc., is perhaps the best, since the smaller the amount of gas needed, the fewer the tubes to transport and the shorter the time for inflation. On the other hand, in a fresh breeze such a balloon would sag off to leeward after the manner of a kite, and would become practically unserviceable.

It is necessary, therefore, to provide an ample surplus of lifting energy to enable the balloon to rise against any ordinary wind.

One thousand feet of hydrogen represents a buoyant energy of 65 pounds; the hydrogen in a balloon of 13,000 cubic feet capacity will therefore lift 845 pounds:

	Pounds.
Weight of two men, say	320
Weight of balloon, car, etc	200
Weight of 1,500 feet of rope	100
Buoyancy margin	225
	845

The smaller of the two balloons of the equipment is therefore reasonably serviceable under ordinary conditions. A larger balloon has, however, been added to the equipment, one of 16,000 cubic feet capacity, that ascensions may be possible in a stiff breeze, and that somewhat more discretion in the way of fittings may be had.

The normal war balloon of the English is of but 10,000 cubic feet capacity. This, however, while giving a light and portable equipment, has been found of such limited serviceability that an increase in size is contemplated. The French balloon has a cubic capacity of 19,000 feet; the German, 13,400 feet, though larger ones are sometimes used.

Since the addition of the balloon equipment in foreign nations there has been no war big enough to test its usefulness. Undoubtedly it may be put to good use in reconnaissance and in scouting, in anticipating turning movements, in observing

the disposition of the enemy's forces, in correcting artillery fire and noting the effect of shots, and doubtless will have a certain moral effect, since it is so conspicuous an object that those seeing it may naturally believe themselves seen. It may also be found advantageous in manœuvering, as by means of the telephone direct communication may be had between the observer and the commander in any part of the field. On the other hand it presents a tempting mark to both infantry and artillery fire, and can hardly stand long within effective range of either. Experiments by the English have proved it a difficult mark to hit, but, notwithstanding, a balloon was perforated many times at long range by infantry fire and was struck by a projectile from a field piece on the nineteenth round, the conclusion being that a balloon could hardly be kept long in the air short of 2 miles from the firing line.

The effect of a shothole in a balloon varies with its position. A breach or rent below the median line permits the escape of gas, but not in such quantity, unless the rent be large, as to endanger the observer; a hole of any considerable size, however, near the top is fatal. Still, weighing the advantages with the danger, there seems a reasonable balance in favor of the equipment.

At present our corps is without a portable generator and compressor, a matter of no special moment, however, in peace times, as the delay in sending the tubes to the factory for recharging and return is not material; and in view of the fact that experiments are being made in the direction of obtaining the hydrogen by simpler means, the time for obtaining this part of the equipment may perhaps be well deferred, but it is of the utmost importance that men and horses be made available for drill. It is the experience of all balloonists, the civilian of this country, as well as the military abroad, that by long practice only can men be made sufficiently familiar with the peculiarities of the balloon and its effects on the nerves to be able to observe and report from it intelligently.

Very respectfully, your obedient servant,

R. E. THOMPSON,
Captain Signal Corps.

The CHIEF SIGNAL OFFICER, U. S. ARMY,
Washington, D. C.

APPENDIX C.

REPORT OF DIVISION OF MILITARY SIGNALING.

WAR DEPARTMENT,
SIGNAL OFFICE,
Washington, D. C., September 1, 1892.

SIR: I have the honor to submit the following report of the operation of the division of military signaling and telegraph lines during the year ending June 30, 1892.

The following table shows the number of hours devoted in each department to signal instruction. This statement is made up by taking the sum of the hours spent in preliminary, flag, heliograph, torch, and lantern practice by each officer and enlisted man under instruction. Dividing the total number of hours by the average number of men in the Department gives the relative amount of practice in proportion to the number of men. The table shows that the time given to instruction varies from 1.4 hour per man in the Department of the Columbia to 8.4 hours per man in the Department of the Missouri.

During the year 867 reports of instruction and practice in military signaling were received and examined.

Instruction and practice in military signaling for the year ending June 30, 1892.

Department.	Preliminary.	Flag.	Heliograph.	Torch.	Lantern.	Average number of hours per man.
	Hours.	*Hours.*	*Hours.*	*Hours.*	*Hours.*	
Arizona	1,131	1,717	4,803	2	4	3.5
California	789	1,946	272	77	.....	3.3
Columbia	821	852	132	49	.....	1.4
Dakota	1,030	2,892	1,932	228	.....	1.8
East	3,600	7,128	1,720	102	.....	4.6
Missouri	9,476	9,543	6,891	2,975	800	8.4
Platte	1,240	3,370	778	98	.....	1.6
Texas	1,137	1,793	650	8	29	2.5

This gives an average of about 3.4 hours instruction in signaling for each man in the Army during the year.

At many of the posts considerable interest was taken in signaling and practical use was make on target ranges and while on practice marches during the summer.

Seventy-seven posts are equipped with telegraph instruments and line, and reports show that great interest is manifested by the enlisted men in this branch of signaling, they devoting much time voluntarily to practice.

SIGNAL INSTRUCTION AT FORT RILEY, KANS.

First Lieut. J. E. Maxfield, Signal Corps, U. S. Army, has been in charge of the instruction of the enlisted men of the Corps at Fort Riley. The course of instruction has been both theoretical and practical, and is designed to fit the sergeants of the Signal Corps for any duties they may be called upon to perform. The theoretical course comprises electricity, telegraphy, telephony, signaling, and military surveying. The text books used are Pope's Modern Practice of the Electric Telegraph, Culley's Handbook of Practical Telegraphy, Lockwood's Handbook of Electric Telegraphy, Myer's Manual of Signals, International Code of Signals, Richard's Military Surveying, Mendell's Military Surveying, Preece's The Telephone, Instructions to Operators, and, in addition, the most modern works on electricity are available for consultation. The course of instruction occupies six months, the first four months being devoted to theoretical and practical work, and the last two to practical work alone. During the year eighteen sergeants of the Corps have been instructed, and all but one of them have successfully passed the examinations required. Lieut. Maxfield recommends that no man shall be enlisted for or transferred to the Signal Corps without passing a satisfactory examination in the ordinary English branches. Seventeen officers and enlisted men of the line stationed at Fort Riley were instructed in the use of the flag, torch, and heliograph. The practice of these officers and men was confined principally to the months of February and August. Each officer and enlisted man received about eighty-five hours practical instruction. The longest range signaled over was 15 miles.

A complete field train of nine wagons was sent to Fort Riley during the year. It is available for instruction in construction of field-telegraph lines at the post, and the location is a convenient one in case the train should be required for use in the field. Lieut. Maxfield strongly recommends the construction of a train shed for the protection of the train and for the storage of signal stores and equipments. At present the train wagons are stored in a stable which affords sufficient protection from the weather, but which may be required for post purposes at any time. This recommendation is concurred in.

The sergeants, after completing the course of instruction, have been assigned to telegraph duty on the military-telegraph lines, with the exception of two, who have been retained at Fort Riley for further practical instruction in telegraphy.

TELEPHONES.

During the year an effort has been made to extend the telephone equipment for target ranges to posts not heretofore supplied. The following named posts not heretofore supplied have been furnished with the telephone outfit necessary for use on target ranges: Angel Island, Cal.; Forts Apache, Grant, and Huachuca, San Carlos and Whipple Barracks, Ariz.; Fort Missoula, Mont.; Fort Douglas, Utah; Fort Robinson, Nebr., and Fort Washakie, Wyo.

Of the ninety-nine posts reported garrisoned on June 9, fifty-nine are equipped with telephones.

On July 1, 1891, there were under annual rental from the American Bell Telephone Company 69 transmitters and 80 telephones, and on June 30, 1892, 55 tranmitters and 40 telephones. There are on life rental 47 telephones and 53 transmitters as against 29 telephones and 31 transmitters at the beginning of the fiscal year. Eighteen modern hand telephones and 22 transmitters of the modern long-distance pattern were added to the equipment during the year. These were, practically, purchased, being obtained on life rental. Of the 53 transmitters on life rental, 35 are long distance. There are in use at posts throughout the country, in addition to the foregoing, 130 telephones which are owned absolutely by this corps, and on hand at this office available for issue to replace instruments that may become unserviceable 10 telephones, the property also of the corps. Thirty-nine telephones of the "Pony Crown" and 19 of the "Eccard" pattern have been returned to the American Bell Telephone Company. These have been, in most cases, replaced by service instruments that have been repaired and put in serviceable condition.

Two hundred and thirty-two requisitions were received from acting signal officers during the year, the filling of which represents in expense, exclusive of stationery, forms, etc., $6,302.10.

HELIOGRAPHS.

On January 14, 1892, the heliograph constructed in accordance with the plans of this office was received from the Ordnance Department. This instrument promises to be a marked improvement over the heliograph now in use for long-range work, as it admits of more perfect adjustment. Bids were invited by the Ordnance Department for the construction of a number of new heliographs and the award was made to J. P. Friez, Baltimore, for thirteen.

The screens made by the Ordnance Department were not entirely satisfactory, and a new screen has been made on plans submitted by me, which appears to be satisfactory in every particular. Thirty of the new screens, model 1892, have already been issued to acting signal officers for trial and an equal number of the old model called in. It has been found possible to make the old screen serviceable by changing the style of spring used and all these screens will be fitted with the new springs as rapidly as they are received from station.

The old style of heliograph is in many respects an excellent instrument and is satisfactory at all ranges up to 25 or 30 miles. It is therefore recommended that this model be retained in service for issue to troops and for instruction purposes.

SIGNAL LANTERN.

An effort has been made during the year to obtain a signal lantern burning magnesium ribbon, for long-range signaling. A satisfactory lantern has not yet been constructed, but it is hoped that alterations now being made will remove the only practical difficulty encountered. Three English signal lanterns have been obtained through the courtesy of Maj. J. C. Post, U. S. Engineers, military attaché at London. Tl ey have been sent to Lieut. Maxfield for trial, but no report in regard to them has yet been received from him. It is considered of great importance to secure a good lantern for use on midranges, say 10 to 20 miles, to replace the objectionable torch, and the matter is now receiving serious attention. It is believed that a satisfactory model lantern will be obtained within the next few weeks, and that the more important posts can be supplied in time for next year's practice. Fifty outpost lanterns, modeled after the French lantern, and made by J. R. Walton & Co., New York, have been purchased and are now in the hands of troops for trial. This lantern burns the ordinary candle of commerce and can be read for a distance of 3 miles. The officers in whose hands these lanterns have been placed have not, as a rule, reported in regard to them, but those who have rendered reports speak well of them, while suggesting a number of changes of minor importance.

OUTPOST CABLE CART.

An outpost cable cart has been constructed during the year on plans submitted by me. The makers are F. S. Cahill & Co., of this city. The frame of this cart is constructed of bicycle tubing, and 30-inch bicycle wheels with heavy cushion rubber tires are used. The cart is fitted with an automatic spooling device for reeling up the outpost cable. This device was made by F. S. Cahill & Co., and is a success. The cart carries five reels of cable and one reel knapsack for use in places where the cart can not penetrate owing to underbrush, etc. As the extreme width of the cart, measured at the wheels, is only 26 inches, it can follow any ordinary path through underbrush. The weight of the cart complete with spooling device, but without the reels, is only 53 pounds; when loaded with five reels and reel knapsack the total weight is 157 pounds. The cart is well balanced upon its axle and is attached to the axle by a device which permits the point of support to be changed to balance the cart as the distribution of the weight is changed by the cable being run out.

In connection with the reel cart a telephone kit is used, and by attaching the double connector of the kit to one on the frame of the cart the telephone is kept in circuit and conversation can be kept up with the home station. The cart with its load can be easily drawn by one man, and by its use it will be possible to connect outposts with the main guard, or brigade with regimental headquarters, or brigade with division headquarters, in a few minutes of time. The experience of the English in Egypt has proved the value of the field cable line in action, as by means of these lines the commanding general was kept in communication with different divisions of troops and with those actually engaged in the firing line. It is proposed to fit shafts to the cart so that a horse can be harnessed to it, thus securing great rapidity in running out the cable. The cart carries 1¾ miles of cable, which can be paid out as fast as a man can move with the cart, and by means of the reeling apparatus and spooling device can be recovered at the rate of 4 miles an hour, or as rapidly as a man can walk with the cart.

At your suggestion I made a drawing showing a field litter constructed upon the

same principles as the reel cart. A field litter can be constructed weighing not over 53 pounds, capable of carrying a wounded man. The litter and occupant can be easily drawn or pushed by one man at a much greater speed than the ordinary hand litter can be carried by two men. In view of the great distance which the wounded must now be carried to be out of danger from long-range guns, the saving in time and men employed as carriers appears to be of importance.

BATTERIES.

Two battery boxes, each containing twelve elements of Siemens Bros. & Co. sulphate of mercury dry batteries, were obtained from London through the courtesy of Maj. Post. Experiments with these batteries prove that they are especially well adapted to use upon open circuits, and the small size and weight of the cells render them very desirable for use in telephone kits for field service. By the use of these cells and the reduction in the size of the key and induction coil used in the kit it will be possible to obtain a kit that can be carried upon the waist-belt of the signal man without interfering with his freedom of movement, as does the kit now used. The dry battery will not answer for use in our field train as at present constructed, as when placed on a closed circuit, used generally throughout the United States, it soon runs down, the current becoming too weak to work the instruments; but for use on open circuits in connection with call bells, etc., it answers admirably.

CARD INDEX.

The comprehensive card index of this division of subjects relating to military signaling in its various branches, both at home and abroad, has received attention. There are now six hundred cards of reference, each containing a digest of lecture, report, or publication upon some branch of military signaling or signaling apparatus. Note of the improvements in methods or appliances in all foreign signal corps is being constantly made.

MILITIA.

The national guards of a number of States have shown increased interest in signaling, and requests for signal equipments, code cards, signal manuals, etc., have become frequent. Unfortunately this office is unable to comply with the requests for equipments, as under existing laws their issue is not authorized. It is recommended that action be taken to secure authority by which the national guard can procure signal equipments under similar regulations to those governing the use of arms, etc.

TELESCOPES.

During the year twenty signal telescopes have been thoroughly overhauled and repaired, and are now ready for issue. There remain on hand forty of the old pattern, which are being put in order as rapidly as possible. The need for new telescopes is very great, complaint as to the unfitness of those in use being frequent.

ANEMOMETER SELF-REGISTER.

The self-register for anemometer, devised by Prof. C. F. Marvin, promises to supply a want long felt. The instrument consists of a clock movement only, the second hand of which traverses the dial, and to which is connected electro-magnetic mechanisms by which the clock can be started and stopped by momentary closing of an electric circuit.

The anemometer used with this register should be of the standard U. S. Signal Corps pattern and be fitted with an electric contact device so arranged that the electric circuit will be closed momentarily every twenty-five revolutions of the anemometer cups. The clock mechanism is so arranged that only the consecutive closings of the electric circuit produce any effect, and this only under special conditions. That is, no effect will be produced upon the register by closing the electric circuit unless the hand, or pointer, stands at the head or zero point of the dial. A small lever is provided at the side of the case which when depressed quickly moves the hand to the zero point and at the same time sets the stop mechanism, or brake attached to the clock movement in such a position that it can be easily withdrawn and the clock work released. If, with the hand so set, the electric circuit be closed, the current passing through the electro magnet draws back the brake and releases the clock movement, the clock will be instantly started and will continue to run until the circuit is again closed upon which the clock will be instantly stopped, the hand

by its position on the dial indicating the number of seconds and fractions of a second that elapsed between the two closures of the circuit.

Two series of graduations are applied to the dial; the inner one of equal parts represents seconds of time, the outer series represents wind velocities in miles per hour when the clock is controlled by the anemometer referred to above. Twenty-five revolutions of the anemometer cups correspond to a wind movement of, approximately, one-twentieth of a mile. The scale of velocities, however, has been computed by the most approved formulas known for the anemometer. A spring switch is attached to the base of the instrument and gives electric control of the register for use in timing flights of projectiles or for marking any brief interval of time.

The model self-register was sent to Lieut. G. L. Anderson, Forth United States Artillery, Fort Monroe, Va. with the request that he would test and report in regard to its value. The report of Lieut. Anderson being favorable, bids were invited for constructing a number of the registers for issue to the more important posts.

OUTPOST CABLE.

Eleven reels of outpost cable have been added to the equipment of the corps, making 20 reels now available for field service. The 11 reels of cable are of American manufacture, and it is a satisfaction to know that in future it will be possible to supply the needs of the service by cable of domestic make. In addition to the outpost cable 2 miles of light cable in half-mile lengths, suitable for extending field lines by crossing streams or rivers have been ordered. The bid of Siemens Bros. & Co., London, England, being the lowest, that firm was awarded the contract for supplying this cable.

PRISMATIC COMPASS.

Prismatic compasses have been obtained for issue to officers of the Signal Corps for accurate field work, and steps taken to procure fifty pocket compasses with clinometer attachment for issue to acting signal officers and others requiring them for ordinary field work.

MESSAGE POCKETBOOK.

A pocketbook for carrying a message pad, with a compartment for carbon paper, has been made, following a model submitted by First Lieut. Frank Greene, Signal Corps. A contract has been made for a supply of these books for issue.

ANEROID BAROMETER.

Efforts have been made to secure an accurate aneroid barometer, to reach from 18 to 24 inches, for use in balloon ascensions, but so far without success, the barometers submitted not standing the required test.

Sergt. Basil O. Lenoir, of the Signal Corps, has submitted a plan for simplifying the bugle calls used at drills by substituting for the calls now prescribed in the drill regulations of the several arms signals founded upon the Morse code. These signals can be made either with the bugle or with a whistle. As anyone can learn the Morse or general service alphabet in a few hours, and can use a whistle without any special instruction, the plan is worthy of a trial.

Signals made upon the whistle with the old general-service code alphabet are more easily distinguished than those made with the Morse system, and codes of whistle signals have been arranged for cavalry, artillery, and infantry, using this alphabet.

INSTRUCTIONS FOR USE OF METEOROLOGICAL INSTRUMENTS.

In December I prepared, under your directions, two tables, which were published for convenience of reference in collating the meteorological data required in artillery practice. The tables were printed and distributed to all artillery posts. (Copies attached.)

In compliance with your verbal orders, I prepared instructions for the use of meteorological instruments for gunners of artillery, which were forwarded by you to the War Department on August 20, 1892.

BALLOONS.

Matters connected with the balloon section have been specially intrusted to Capt. R. E. Thompson, Signal Corps.

Active steps are being taken to perfect the balloon train and to provide a model equipment of this character.

The following is extracted from the report of First Lieut. Frank Greene, Signal Corps, Chief Signal Officer, Department of Arizona:

There having been no occasion for the movement in the field of detachments of any size during the year, no opportunity arose for the practical use of any kind of signals. It was desired and intended as outlined in my schemes of October 23, 1891, to still further perfect the chain of heliograph stations and ranges in this department by working reconnoissances from Forts Wingate, Apache, and Grant, and from the garrison at San Carlos, having in view the opening of ranges from Fort Wingate by way of the Zuni Plateau to Red Cone, and from the latter point to Mount Thomas, Arizona, from which point Fort Apache, Mount Graham, and the Summit between Fort Apache and San Carlos should be seen. These projected ranges varied in length from 30 to 83 miles, for the longer of which the large sized station heliograph would be required. Upon application I was unable to obtain any station heliographs from Washington, * * * and as the department commander considered it unadvisable to strip the southern posts of the four large heliographs there distributed, the project was necessarily abandoned.

The instruction in signaling required by Army Regulations 1761 has been given at every post in the department, with a result despite the changes of troops in the department, of a gain in the total number of expert signalists of three officers and thirty enlisted men as compared with the number at the date of the last report.

As reported one year ago, that the withdrawal of the Fourth and Sixth regiments of cavalry had taken from this department a number of officers and men skilled in the use of the heliograph, and familiar by actual use with the principal heliograph ranges, so also at this time it is to be said that the departure of the Tenth Cavalry and the Ninth Infantry has taken away an equal number of officers and men with equal skill and knowledge.

It will be the part of wisdom, looking to the time when possibly the maintenance of signal communication over the ranges in this department may be for other purposes than practice and demonstration, to familiarize officers and men with different ranges.

The months for signal practice still remain as provided in General Orders No. 23, series of 1889, these headquarters as follows, viz:

Fort Apache, June and July; Fort Bayard, November and December; Fort Bowie, February and March; Fort Grant, November and December; Fort Huachuca, June and July; Fort Marcy, July and August; San Carlos, February and March; San Diego Barracks, March and April; Fort Stanton, July and August; Whipple Barracks, March and April; Fort Wingate, March and April.

These months were selected after consultation with post commanders with the special view of avoiding obstructions to signaling, whether of heat and drought in low elevations or cold and snow in high ones, and with the exceptions of Fort Huachuca and San Carlos, where the months of target practice and signaling conflict, may well be left untouched.

The relative order of proficiency of the different regiments in this department is: (1) Eleventh Infantry, (2) Second Cavalry, (3) Twenty-fourth Infantry, (4) Tenth Infantry, (5) First Cavalry. Of the Eleventh Infantry, with but one exception, every company has the required number of officers proficient and, in addition, in five companies there is an excess of one officer each; of enlisted men in three companies there is an excess, one has the required number and in four companies there is a deficiency. Of the Second Cavalry six troops have the required number of officers, one troop has an excess, and three troops are totally deficient; of enlisted men five troops have the required number, three troops have an excess, one troop is deficient, and three troops are totally deficient. Of the Twenty-fourth Infantry four companies have the required number of officers and four are totally deficient; of the enlisted men three companies have the required number, two companies are in excess, and five are deficient. Of the Tenth Infantry two companies have the required number of officers, three companies are totally deficient, one company has an excess, and the Indian and skeleton companies have the required number; of the enlisted men two companies have the required number, one company has an excess, and three companies are deficient. Of the First Cavalry four troops have the required number of officers, and five troops are totally deficient; of the enlisted men one troop has the required number, five have a deficiency, and three are totally deficient.

From the above it will be seen that while the majority of companies and troops have the proficiency in signaling required by Army Regulations, in the others there is great room for improvement.

The practice of telegraphy, a knowledge of which is always desirable and at times important, has received attention, there being a gain of eight officers and seven enlisted men, capable of operating at a practicable rate as compared with the number at the time of last report.

* * * * * * *

The supplying of material and telephones for the construction and operation of telegraph lines upon the rifle ranges at posts in this department, promised in my last report, has gone forward as rapidly as the money available from the service appropriations has permitted. Recognizing the importance of the Department of Arizona the Chief Signal Officer of the Army allotted ten of the eighteen sets of telephones at his disposal to this department; the necessary iron poles, equipments and wire have already been shipped, and in addition to Forts Wingate and Bayard which were already supplied, the posts of San Carlos, Whipple Barracks, Forts Apache, Grant and Huachucha are either now or are in the immediate course of being, equipped with complete telephone outfit upon the target ranges. Fort Bowie was supplied with telephones from this office.

An ordinary style of telephone with call box, transmitter, and cell of battery, while it gives satisfactory results while stationary, as is the telephones at the butts, is, from careless or ignorant handling while being moved from point to point, as the telephone at the firing point must be, apt to get out of order, either from spilling the liquid contents of the battery cell or derangement of the springs in the transmitter. I believe a combined hand and ear telephone has already been devised for use in the knapsack telephone, and am of the opinion that a similar or approximate device would be of more service for the movable telephone than the one now in use. The posts in the department are amply supplied with the signal instruments necessary for instruction and practice, and the more important posts have sufficient to equip parties for the field; a stock of instruments and material is being accumulated at this office for the purpose of keeping in repair the equipments at posts, and for equipping any extended ranges that may unexpectedly become necessary.

* * * * * * *

The following is extracted from the report of First Lieut. C. H. Bonesteel, Twenty-first Infantry, acting chief signal officer, department of California:

* * * * * * *

INSTRUCTION AND PRACTICE IN MILITARY SIGNALING.

Instruction and practice, as prescribed by Army Regulations, were had at the various posts in the department, and the reports of the acting signal officer were promptly forwarded to the Chief Signal Officer at the end of each month. Practical use was made of the flag and heliograph on rifle and artillery ranges and also at "estimating distance drills" for infantry.

PRACTICE LINES (TELEGRAPH).

Lines for telegraph practice are in operation at the following posts:

At the Presidio two lines are in use, one 500 yards long, with six stations for the use of officers, and another 700 yards long, with nine offices, for enlisted men.

Fort Mason, one line, 400 yards long, with six offices, used by both officers and men. Fort Bidwell, one line, with two offices. Fort Gaston, prior to abandonment, had 500 yards of line, with two offices.

Angel Island, Alcatraz Island, and Benicia barracks have no practice lines.

* * * * * * *

Lieut. Clough Overton, Fourth United States Cavalry, who took part in the concerted heliograph practice in Arizona in 1890, under the supervision of Maj. W. J. Volkmar, assistant adjutant-general of that department, has submitted a valuable paper on the subject of field signaling which contains a number of suggestions worthy of attention. In this paper he calls attention to the fact that some of the maps furnished the signaling parties for use in the field proved unreliable, prominent peaks being incorrectly placed, and much of the information in regard to the country to be passed, location and direction of streams, etc., misleading. The following extract from the paper is of general interest:

OUTLINED SYSTEM.

Take Arizona and New Mexico as a best example of territory and of them suppose a perfect heliograph map to have been constructed. This map should comprise the fullest possible details of the territory. It should be contoured, should have noted

on it a complete cordon of stations specially selected with reference to their value as posts of observation for the adjacent valleys and passes, and within easy call, say from 30 to 50 miles, of at least two adjacent stations. Stations should be numbered and connected, and all other stations, that might by omitting intermediate ones be called direct, should be joined by conventional lines. Exact altitude of stations should be shown and their angles and distances from each other noted.

All points on or near trails or roads or plains, from which stations might be called, should be denoted in conventional colors, and nearest station to call indicated. Points on roads or trails that could be swept by station observation glasses should be put in distinguishing color. Stations should be triangulated, routes of ascent marked, and time of ascent noted. The entire horizon should be carefully photographed from each station. These photographs, taken while a steady flash from the adjacent station was on, should be sectionally arranged and direction of flashes noted on them; this would give stations so as to be unmistakable. From various points on roads and trails similar horizon photographs should be made of distant stations. All these photographs could be copied by photogravure in a book containing the heliograph map.

STATION EQUIPMENT.

Each station should be equipped with two good station instruments and one portable heliograph, a map, book of photographs, a compass, a chronometer, a pair of good binocular glasses to note any movement in the adjacent valleys, and a fine station telescope to determine and resolve the character of the party making any movement. With a fine telescope very little could escape notice unless movements were all made at night, for at 20 or 30 miles not much would be left in doubt.

TROOPS EQUIPMENT.

Each army, party, or detachment should be furnished with a map, book of photographs, a good binocular glass, and portable heliograph, or more, as needed.

MANAGEMENT.

Immediately on an Indian outbreak or war, stations could be quickly manned by the instructed details from the adjacent posts, guards and supplies obtained and temporary shelter erected, lines divided into sections and divisions, responsible officers being placed in charge.

Hours for routine work being arranged by the chief signal officer in charge, who should each day give out the countersign for use of each army or party in the field, and a parole for each station of the line, so that the party in the field when calling a station would know that it had not been captured by an enemy, and so the station could know it was communicating with friends, messages from the field being prefaced with the countersign, and those from the station with the parole. The extra station heliograph would be for field calls and the other one for the routine line work. Much of what is here outlined was accomplished by Maj. Volkmar in his systematized work, and more suggested.

I believe that a complete heliographic survey of our western mountain region should be made and recorded, and this work once done would have a permanent military value.

* * * * * * *

Very respectfully,

C. E. KILBOURNE,
Captain, Signal Corps.

The CHIEF SIGNAL OFFICER, U. S. ARMY,
Washington, D. C.

APPENDIX D.

REPORT OF THE DISBURSING OFFICER.

SIGNAL OFFICE, WAR DEPARTMENT,
Washington City, July 1, 1892.

SIR: I have the honor to submit the following report for the fiscal year ending June 30, 1892:

PERSONNEL.

Under Special Orders No. 49, dated headquarters of the Army, Adjutant-General's Office, Washington, March 4, 1891, I have continued on duty as disbursing officer during the fiscal year. Under the instruction of the Secretary of War I continued to settle outstanding accounts payable from the various appropriations up to September 30, 1891, when the balances, excepting those under Signal Service of the Army and military telegraph lines, were turned into the Treasury.

My duties have been of a double character—that of disbursing officer, and in charge of the general depot of signal supplies for the whole Army.

Sergt. H. L. Boyce, Signal Corps, reported for duty as storekeeper on July 7, 1891, under Special Orders No. 71, dated June 22, 1891. Sergt. D. W. Peters, Signal Corps, has been on duty as assistant to the storekeeper. At times the work has been too heavy, necessitating the employment of outside help. On February 21, 1892, Sergt. H. W. Stamford, Signal Corps, reported for duty as additional assistant to the storekeeper.

CHARACTER OF WORK.

The work consists of the preparation of the estimates for appropriations; the preparation of specifications (in part) and advertisements for proposals to furnish supplies; the preparation of orders and letters authorizing purchases and expenditures; the preparation of contracts and leases; the purchasing, receiving and packing, and shipping of all supplies; the handling and record of registered mail matter; the record and settlement of all accounts payable from the Signal Service appropriations; the preparation of the money accounts and property returns of the disbursing officer; the record of receipts and expenditures of money and the condition of appropriations; the writing, recording, and mailing of letters sent relating to the above.

CORRESPONDENCE.

The total number of letters written, including 356 endorsements, is 2,003.

ESTIMATES.

As required by law estimates for appropriations for the fiscal year ending June 30, 1893, were submitted to the Secretary of War on August 11, 1891. By combining the estimates for signal service of the Army and for military telegraph lines it has been possible to reduce the total from $22,500 to $22,000. Estimates for deficiencies have not been necessary.

ADVERTISEMENTS AND PROPOSALS.

During the year twenty advertisements, in the usual form of the printed letter, have been sent out inviting proposals for furnishing the Signal Corps with the various articles required. In no case has it been found necessary to enforce the penalty prescribed for delay in delivery.

EXPENDITURES.

It has been a rule that no indebtedness should be contracted without the written authority of the Chief Signal Officer, excepting in the cases of emergency. At the beginning of the fiscal year authorities were issued to cover the expenses of the various stations for the year so far as they could be foreseen. These were attached to the first accounts rendered, and on subsequent accounts reference was made to the first. This plan has continued to work satisfactorily.

REQUISITIONS AND ORDERS.

During the year the following requisitions were made upon the supply division of the War Department:

For books and periodicals	3
For miscellaneous articles	21
For stationery	21
Total	45

The following authorities were issued:

Orders on contractors	179
Letters to stations	78
Total	257

There have been filled requisitions for property from 30 telegraph stations, and 94 army posts to the number of 459. At the close of the year 76 requisitions remained unfilled, mostly for the calendar year 1893.

CONTRACTS.

As required by the act of Congress approved April 21, 1808 (Stat. L., vol. 2, p. 435), I submit herewith a list of contracts and leases made during the fiscal year ending June 30, 1892:

With whom made.	Place.	Contract.	For what purpose.
Jas. J. Walton	New York City	Contract	50 candle signal lanterns.
The E. S. Greeley & Co	do	do	1,500 hard rubber insulators.
C. B. Tuch	Washington	do	Repairing call boxes.
The Specialty Manufacturing Co	do	do	File cabinet.
Manhattan Supply Co	New York City	do	40 miles No. 14 G. I. wire.
J. H. Thiemeyer & Co	Baltimore	do	Packing boxes.
F. P. Nash	Washington	do	600 lances.
Voigtlander & Sohn	Braunschweig, Germany.	do	Field glasses.
The E. S. Greeley & Co	New York City	do	Drums and output cable.
Levy, Dreyfuss & Co	do	do	5 Aneroid barometers.
M. G. Copeland & Co	Washington	do	400 signal flags.
F. P. Nash	do	do	150 joints signal staffs.
Siemens Bros. & Co. limited	London	do	1 mile of cable.
D. Ballauf	Washington	do	40 heliograph screens.
Siemens Bros. & Co. limited	London	do	2,500 feet telephone cable.
Manhattan Supply Co	New York City	do	50 miles No. 9 G. I. wire.
Royce & Marean	Washington	do	24 telegraph relays.

SHIPMENTS AND RECEIPTS.

There have been made to stations and military posts 2,441 shipments by mail, and 185 (consisting of 337 boxes) through the Quartermaster's Department. There have been received from contractors 241 consignments, and from stations and military posts 92.

INVENTORIES OF PROPERTY.

After the division of the property between the Signal Corps and the Weather Bureau, and the receipt at this office of the former, an accurate inventory of the same was made with the result that all was accounted for.

SALES OF CONDEMNED PROPERTY.

Date.	Station.	Articles.	Amount.
July 25, 1891	Washington	Horse, carriage and harness	$127.00
Aug. 21, 1891	Signal tower and trucks		30.00
Aug. 14, 1891	Fort A. Lincoln	1 desk, 1 table	3.75

ACCOUNTS SETTLED.

The number of accounts settled during the year is—

Months.	No.	Months.	No.
1891.		1892.	
July	962	January	31
August	120	February	42
September	118	March	27
October	42	April	51
November	35	May	29
December	29	June	63
		Total	1,549

The number of checks drawn in payment of accounts is 1,780. So far as known none have miscarried in the mails.

ACCOUNTS UNSETTLED.

On June 30, 1892, there were in the office seven unsettled accounts; of these one was received on that date too late for settlement; three were for purchases, and articles had not all been delivered on that date; the remaining three were held for further data.

INSPECTION OF MONEY ACCOUNTS.

My money accounts were inspected and the balances verified by Maj. J. P. Sanger, inspector-general, to include October 31, 1891. and February 29, 1892; by Lieut. Col. H. W. Lawton, inspector-general, to include June 30, 1892.

ALLOTMENTS FOR CONTINGENT EXPENSES AND STATIONERY.

The amounts allotted to this bureau under circular of July 7, 1891, are: Stationery, $275; contingent expenses, $375. Under the latter head $200 additional were allotted by the Acting Secretary of War in letter dated August 14, 1891.

CONDITION OF APPROPRIATIONS.

The method heretofore used of keeping a record of all liabilities incurred has been continued, so that at any moment it has been possible to ascertain the balance available of any of the appropriations. As required by paragraph 1319, U. S. Army Regulations, 1889, a cash book has been kept in which will be found entered under the various appropriations the amounts received and disbursed with dates. The balances shown by the cash book are verified daily by comparison with the check book.

The condition of the appropriations for the fiscal year ended June 30, 1892, with the expenditures thereunder, balances, and probable demands on such balances, report of which is required to be rendered by the act of Congress, approved May 20, 1820, is as follows:

Appropriated:	
Signal service of the Army	$7,500.00
Military telegraph lines	15,000.00
Total	22,500.00
Expended:	
Signal service of the Army	3,384.25
Military telegraph lines	9,407.76
Total	12,792.01
Balances:	
Signal service of the Army	4,115.75
Military telegraph lines	5,592.24
Total	9,709.99
Probable demands:	
Signal service of the Army	4,109.13
Military telegraph lines	5,591.65

On June 30, 1892, under the instructions of the Secretary of the Treasury circular May 25, 1892, there was deposited with the Treasurer of the United States the amount of $1,019.36, of which amount $121.46 was the balance to my credit on account of the appropriation Signal Service of the Army, 1890, and $897.90 on account of the appropriation Signal Service of the Army, 1891.

Very respectfully,

ROBT. CRAIG,
Captain Signal Corps, Disbursing Officer.

The CHIEF SIGNAL OFFICER, U. S. ARMY,
Washington, D. C.

APPENDIX E.

ANNUAL REPORT OF THE OFFICER IN CHARGE EXAMINERS' DIVISION.

WASHINGTON CITY, *July 1, 1892.*

SIR: I have the honor to submit the following report of the operations of the examiners' division during the fiscal year ending June 30, 1892

This division is specially charged with the auditing of the money and property accounts of all persons accountable to the Government for money or property pertaining to the Signal Corps.

At the beginning of the fiscal year, owing to the confusion and extra work incident to the removal of the records from the building of the Weather Bureau to the new Signal Office, and the reduction of the clerical force engaged in the examination of accounts from three to one, the work of the division was seriously retarded. It became necessary to forward the money papers of the disbursing officer of the Signal Corps, covering the period from June to September, 1891, inclusive, to the Treasury Department without examination as to their correctness, except so far as to see that all property purchased was taken up and accounted for on the returns of that officer. This was a marked injustice to the bonded officer of the Signal Corps charged by law with the disbursement of funds, inasmuch as the omission or defect of a single voucher (which at the time might have been corrected) would render that officer's accounts liable to suspension, while the entailed delay of several months makes it difficult to remedy the defect.

From October 1 to the end of the fiscal year all accounts have received a critical examination prior to being forwarded to the Third Auditor of the Treasury Department.

A large number of accounts current and other official money and property papers, extending as far back in some cases as 1870, and which were filed in every available place in the office, have been carefully assembled, chronologically arranged, and indexed, to be deposited in the vaults of the War Department for safety.

A card index, embracing the names of all persons and places at which there is Government property, showing date of receipt of returns, acknowledgment, examination, etc., has been prepared, which permits the discarding of several large record books in which such information was formerly recorded, and greatly lessens the labor of keeping a record thereof.

The following is a tabular statement of the number of papers handled during the year, every one of which, and every item contained therein, required the most careful scrutiny and check before being passed as correct:

Accounts current of officers	93
Vouchers accompanying accounts current	3,956
Property returns	269
Vouchers and inclosures to property returns	1,345
Letters sent relative to property and money papers	*891
Certificates of deposit received and recorded	51
Statement of remittances received, verified, and recorded	222
Total number of papers	6,827

Very respectfully,

C. E. KILBOURNE,
Captain, Signal Corps.

The CHIEF SIGNAL OFFICER.

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* Does not include acknowledgment of receipt of papers.

REPORT OF THE CHIEF OF THE RECORD AND PENSION OFFICE.

REPORT

OF THE

CHIEF OF THE RECORD AND PENSION OFFICE.

RECORD AND PENSION OFFICE,
War Department, November 1, 1892.

SIR: The Record and Pension Office of the War Department was created by an act of Congress approved May 9, 1892. It is charged by that act with the custody of the military and hospital records of the volunteer armies and the transaction of the business of the War Department connected therewith. In this, the first annual report of the office as now constituted by law, it is deemed proper to refer somewhat in detail to the conditions preceding and resulting in its organization.

The muster rolls, hospital registers, and other records embracing the military and medical histories of officers and enlisted men of the volunteer armies, and the organizations of which they were members, were originally distributed among the different bureaus to which, in the regular organization of an existing army, they would naturally belong. The business in which the use of these records was required was also divided among the several bureaus and their subdivisions, each acting independently of the others. Many of the records, including nearly all of the muster rolls, regimental returns, and hospital registers, were in a worn and tattered condition and fast going to destruction as the result of the constant handling to which they had been subjected for more than a quarter of a century. As a natural consequence of this unfortunate division of labor and the dilapidated condition of the records, and because of the rapid increase in the number of claims filed, due to greater liberality in legislation, the advancing age and increasing infirmities of claimants, and to other causes that need not be specified in this connection, the Department experienced greater difficulty each year in meeting the demands made upon it for information to be used in the settlement of claims arising out of military service rendered during the late war.

That the constantly increasing evil of delayed and accumulating calls for information from the records to be used in the settlement of the claims of soldiers and their heirs was for many years the cause of anxiety on the part of the War Department and of Congress is shown by the annual reports of successive Secretaries of War, by the regular appropriation bills in which from year to year provision was made for the employment of additional clerks, and by the condition which was attached to these bills requiring that a large proportion of the force (from 480 to 500 clerks) should be exclusively employed in the expedition of the work connected with "pension applications and soldiers' claims."

ORIGIN OF THE RECORD AND PENSION OFFICE.

Notwithstanding the fact that Congress had greatly increased the clerical force of the War Department for the purpose of enabling it to keep pace with the demands made upon it for record evidence to be used in the adjudication of pension and other claims, these demands were not satisfactorily met, and complaint of the delay with regard to them became almost universal. Finally, in 1886, the Department found itself confronted by the fact that its work of this class was almost hopelessly in arrears, and by the certainty that the invaluable original records which served as a basis for that work were doomed to speedy destruction unless some means could be devised to preserve them. The only remedy that had been suggested for the first of these evils was another large increase in the clerical force, while for the second it had been proposed to reproduce the more important records by printing, photography, photolithography, etc., any one of which processes would have involved an outlay of hundreds of thousands of dollars. It was evident that none of these propositions was feasible at that time, and that the only hope of immediate relief lay in an attempt to improve the business methods of the offices most concerned.

The first effort in this direction was made in December, 1886, under special instructions from the Secretary of War, in the division of the Surgeon-General's Office which at that time had charge of the hospital records of the Army. As this effort was not only successful in speedily clearing away the great arrearage of work existing at the time, but as it also led to the adoption of a simple and practical system by which the rapidly decaying original records are being reproduced and their permanent preservation assured, all without any addition for this purpose either to the clerical force or the regular appropriations, and as it was followed by many important changes in the Department and finally resulted in the creation of the Record and Pension Office by law, a statement as to the origin and development of the new system may properly be made in this connection.

On December 6, 1886, when the present chief of this office was assigned to duty as officer in charge of the division referred to above, there existed in that division an arrearage of nearly ten thousand unanswered calls from the Commissioner of Pensions and other officials for the hospital records of soldiers, and it was found that the bulk of the calls then being acted upon and answered in regular order had been received in the office from three to six months previously. On the day mentioned measures were instituted for the purpose of bringing up the delayed work, and this was accomplished early in the following March. It was then found that changes which had been made in the way of simplifying the methods of business of the office had made it possible to keep the current work constantly up to date and at the same time to assign a few of the clerks who had been engaged upon it to other duties. Attention was then directed to devising some means by which the information contained in the hospital records could be made more accessible.

HOSPITAL RECORDS.

These records consist of more than twenty thousand registers, each one pertaining to some particular hospital or command, and all of them together containing more than ten million separate and distinct entries. In each one of many of these volumes there are to be found

more than five thousand such entries, arranged in no order except the chronological one in which the soldiers were received into the hospital to which the book pertains, having no index, and affording no means of finding any individual record contained therein other than that of making a tedious and protracted search, which, under the old system, often involved the examination of many thousands of names and required several days for its completion. But even before this difficult and sometimes almost hopeless search could be undertaken in any case, it was necessary that the searcher should be furnished with a statement indicating in what hospitals or localities the soldier for whose history inquiry had been made was treated. In the absence of such a statement it was impossible to determine in which one of the many volumes the record in question might be found, and consequently no search was ever attempted.

But there is a very large class of cases in which little or no information upon which to base a search of the records can be obtained from the person for whose benefit the search is requested. The widow, children, or parents of a deceased soldier are seldom able to state the names of the hospitals of which he was an inmate, or to give any other particulars that will serve as a guide to the volume or volumes in which his medical history may be found. It often occurs that a soldier who is himself an applicant for pension is unable, because of the lapse of time or the failure of memory incident to advancing age, to specify even the nature of certain disabilities that he may have incurred in service, much less the localities in which he received treatment for them. On the other hand instances are not rare in which claimants purposely refrain from mentioning names of certain hospitals in which they were patients because they have reason to believe that the records of those hospitals contain evidence that, if found, will show that the disabilities upon which their pending claims are founded were not incurred in service and in the line of duty. In all this class of cases it was practically impossible, under the old system, to furnish the evidence pertaining to them that might be buried among the millions of entries upon the registers, and the interests of the claimants and of the Government both suffered in consequence.

ORIGIN OF THE INDEX-RECORD CARD SYSTEM.

It became evident that some measure must be adopted to make the information contained in the medical records more accessible, not only because of the reasons stated, but because the records themselves were fast being destroyed by the constant handling to which they were necessarily subjected in the course of the protracted and indefinite searches that had to be made in them, and because the time, labor, and expense involved in making these searches were out of all proportion to the results obtained.

Naturally the first measure of relief that suggested itself was the preparation of an index, and a start was made in this direction by transcribing upon small slips the names borne upon certain books, each name being copied on a separate slip, together with the rank, company, and regiment of the soldier and the page and number of the volume in which the remainder, and by far the most important part, of the entry standing against that name could be found. If this plan had been carried out as originally contemplated, it would have produced an index of the hospital records that would have been nothing more nor less than the old and well-known library card index; but it was soon discovered

that such an index, though it would be useful if completed, would not meet the important requirement, and one that was daily growing more urgent, that the dilapidated original records should be preserved from further destruction by being relieved from the incessant handling to which, even though indexed, they must be subjected unless other measures for their preservation were taken.

A solution of the whole problem was found when it was determined to substitute for the slip referred to above a card of imperishable paper, and to transcribe upon it not only the name, rank, company, and regiment of the soldier, and the number and page of the register in which certain information relative to him is to be found, as had previously been done in the preparation of the index slips, but to transcribe also the information itself, so that the card should bear a complete and literal transcript of everything shown by the original record in connection with a certain entry. Such a card, when referred to, not only indicates to the searcher where he can find a particular item in the original records, if for any purpose he desires to look for it, but it shows him also exactly what that item is, and obviates the necessity for his handling the original at all. It is not merely an index to a certain record. It is a reproduction of the record itself, and is very properly called an "index-record card." It differs very materially from the simple index slip that was first adapted to the hospital records but was soon abandoned, because that slip, like its counterpart the library index card, serves only to indicate to the searcher where, upon further search, something of which he is in quest may be found.

The use of the newly devised index-record cards in transcribing the hospital records of the Army was commenced April 27, 1887. After all the details of their application had been worked out and it had been demonstrated by actual trial that they were perfectly adapted to the purpose for which they were devised it was learned, upon inquiry, that many years previously a clerk, Mr. J. P. Kepner, long since dead, had proposed a method of reproducing the hospital registers that differed but little in its essential features from that described above. But after a brief and fruitless trial this method was abandoned as impracticable, and nothing further was heard of it until, long afterward, it was brought to light by the inquiry referred to. The index-record cards have since been adapted to many different purposes, including that of recording the current correspondence of large offices, and their use has developed into a system which has been adopted, in whole or in part, by several different bureaus of the Government, as well as by State officials and private individuals, but it is believed that the first successful application of the method on a large scale to the work of reproducing and preserving the public records was that which was begun on the date mentioned above.

INDEX-RECORD CARD SYSTEM AS APPLIED TO THE HOSPITAL RECORDS.

Upon the commencement of this work but a small force was available for assignment to it, nearly all of the 280 clerks allowed by law to the division being required to meet the current demands for reports from the records, and to prevent the work of furnishing them from again falling in arrears. But as the cards increased in number it was found that they lessened the labor of the searches and that the current work could be kept up to date by a gradually decreasing number of men. The force engaged in transcribing the old records was thus steadily

increased, the system furnishing by its own operation, after the first small beginning, the means for its prosecution and final completion. Nearly seven million cards were thus made and placed on file in the most accessible manner, representing more than ten million separate entries upon the hospital registers.

The beneficial results that have followed the reproduction of the hospital records by the index-record card system are perhaps most noticeable in the conduct of the public business connected therewith. For many years under the antiquated methods of the old system the 280 clerks required by law to be constantly engaged in making reports from these records for use in the settlement of pension and other claims could only make on an average one hundred and fifty such reports a day, and that only after a delay of from three to six months from the date of the calls therefor, while at the same time the information furnished was in many cases far from complete, and was obtained only from the records of hospitals that could be designated by the claimant, or might be indicated by the military record obtained from the muster rolls filed in another bureau, or from registers stumbled upon by accident or found through conjecture. Under the present system 40 men are able to answer a thousand calls on the day of their receipt, and to furnish a complete medical history in each case. Given only the name of the soldier and the organization of which he was a member, it is the work of but a moment to find the history of every recorded disability that he may have incurred, from the beginning to the end of his service, by simply turning to a file box in which, under his name and regiment, are to be found within a narrow space the cards containing his record in each of the hospitals to which he may have been admitted.

This search so easily made is entirely independent of any data furnished by the claimant. Lack of knowledge on the part of the widow, dependent parents or children, failure of memory on the part of the soldier himself, or the willful withholding by him of information which might lead to the discovery of a record that would defeat his claim, are alike unimportant. With no basis for a search beyond the bare designation of the regiment to which a soldier belonged, his complete medical history, so far as it is of record, can be found at once, even though it may be made up of possibly a hundred different items, each recorded separately from the others and scattered widely apart through the millions of entries upon the registers. The interests of deserving claimants as well as those of the Government are thus subserved, for the former are sure to be given the benefit of all the record evidence pertaining to their claims, no matter how meager the data submitted, while the latter is protected by being no longer dependent upon claimants themselves to indicate where records showing their claims to be baseless may be found.

Evidence from the medical records is now furnished in a much greater percentage of cases than was possible under the old system, because all that is of record is now easily obtained and promptly furnished in a very large class of cases in which, formerly, the calls were returned with an incomplete history, or with none at all, because the data submitted by the claimant or obtained from the muster rolls and other military records did not indicate where the desired information might be looked for. The accuracy and completeness of the work done by the new method were demonstrated by a critical test that was applied some time before the index-record cards for all the hospital registers were completed. For the information of the Secretary of War, and to fully and fairly compare the accuracy of the new system with that of the old, a

thousand briefs of pension cases in which no medical evidence had been furnished by this office were taken from the files. These cases covered a period of ten years prior to the introduction of the card system and were taken at random, one hundred cases for each year, so as to fairly represent the work of the whole period. All of them had been returned to the Pension Office without any record of hospital treatment or disability being found. When the thousand cases were taken to the record cards to ascertain if these would disclose any information, evidence of treatment in from one to a dozen hospitals in each case was immediately found in two hundred and ninety-five out of the thousand, or nearly 30 per cent of the whole number. Every possible precaution was taken to make this test a fair one, and there is no doubt that the percentage obtained is applicable to all cases of a similar character acted upon during the period in question.

Since the time the cards from the medical records first came into use, and long before they had been completed, the daily experience of the office has furnished abundant and constantly increasing proof of the correctness of this conclusion. Whenever cases that have been reported on under the old system are returned to this office for any reason it is the practice to examine the card files for the purpose of ascertaining whether they afford any information additional to that contained in the old reports. In a large proportion of such cases new, and often vitally important, evidence is at once furnished by the cards, although a careful and exhaustive search made under the limitations and disadvantages inherent in the old system may have failed to elicit any information of value either to the claimant or to the Government. It is somewhat startling to think that, under the old system, in almost one-third of all the claims returned without evidence, many of which were cases of widows and orphans, direct and positive record evidence of disability was in existence and would have been found under a better system, such as that now in force.

Prior to the reproduction of the hospital records by the index-record card system it was necessary in every doubtful case to obtain a statement showing the military history of the soldier from the muster rolls and other records on file in another bureau of the Department. From the statement it was sometimes possible to ascertain the whereabouts of the soldier at a certain time and, possibly, the name of the hospital into which he may have been received for treatment. Upon data so obtained a search of the hospital records could be undertaken with some hope of success even if the claimant had failed, or was unable, to indicate the direction in which the search should be made. In this respect the rolls and other military records were useful to a limited extent, but their importance as sources of information relative to the medical history of soldiers was, and still is in the minds of many, very much exaggerated. It is very seldom that they afford any evidence of this character other than that a soldier was absent sick or wounded at a certain time or, more rarely still, that he was treated in a certain hospital. They rarely state the nature of the disability, except in case of wound, that caused his absence from his command or his admission to hospital, and this item, which is really the only important one in most cases, must be supplied from another source. In the great majority of cases the only information obtained from the rolls that was of value to a soldier's pension claim, so far as his medical record was concerned, was an indication as to where a search for that record might be made with some prospect of finding it. But the completion of the work of card-indexing the hospital records has divested the muster rolls of all the importance they ever possessed in this respect.

CONGRESSIONAL INVESTIGATION.

On March 3, 1887, a select committee of the Senate was appointed to inquire into and examine the methods of business and work in the executive departments of the Government. During the following year this committee, in the course of an exhaustive investigation of the business of the several bureaus of the War Department, made a minute inquiry into the workings of the index-record card system as applied to the medical records of the Army, and gave careful consideration to the possibility of enlarging its scope and extending it to the reproduction and preservation of other records. On March 8, 1888, the Hon. F. M. Cockrell, chairman of the committee, submitted to the Senate a report (Senate Report 507, Fiftieth Congress, first session), in which, after discussing the worn and mutilated condition of the muster rolls of the volunteer armies, the various plans that had been proposed for their preservation from impending destruction through the constant handling to which they were subjected, and the methods to be adopted to prevent delay in furnishing information from them in response to calls therefor, the following remarks were made:

In the opinion of your committee this card-index record system is the solution, and the only practical, feasible and economical solution of the vexed question in regard to the preservation of these rolls without further wear and destruction, and the placing of the data contained in them in an easily accessible and convenient condition for use without the handling of the rolls. * * * This work is so important that it should be prosecuted with the greatest vigor and by every available employé, and, if necessary, there should be an additional force provided for.

No action having been taken toward carrying out this recommendation, Congress embodied the following provision in an act approved March 2, 1889 (25 Statutes, 912):

That the Secretary of the Treasury is authorized to transfer and deliver to the Secretary of War, from time to time, as may be necessary, the pay rolls of the volunteer forces during the late war, now on file in the office of the Second Auditor, in order to enable the Secretary of War to have the card-index records of the volunteer forces in the late war made complete from all the rolls, pay, muster and detached, morning and all other reports containing any information as to such soldiers, as to service, pay, bounty and allowances of all kinds, said rolls to be returned to the Treasury Department in the like condition in which received, unavoidable wear excepted.

The final report of the Senate select committee, made by its chairman to the Senate, March 28, 1889, contains the following remarks explanatory of the intent and purpose of this legislation:

If the object and intent of the foregoing provision of law be carried out in the proper spirit, the whole work can be completed in a comparatively short time, without any increase of clerical force or additional expense, and complete card-index records of every soldier in the late war made, and the muster rolls saved in their present condition.

Within six to ten months the Pension and Record Division of the Surgeon-General's office will have completed the card-index records of all the soldiers whose names appear on any of such records and rolls. And then about two hundred experienced and skilled clerks from that office can be put to work in coöperation with the force of [the] Adjutant-General in making such card-index records from such pay, muster and all other rolls. And as the work progresses the force can be increased, while at the same time calls for information from other offices can be answered more promptly, and all arrears of such calls brought up to current work, as has been done so successfully and completely in that division of the Surgeon-General's Office.

In the opinion of your committee this great work can be completed within four years from July 1, 1889, and most probably in three years from such date.

CONSOLIDATION OF MILITARY AND MEDICAL RECORDS.

In order to carry out the will of Congress as expressed so plainly in the law and the report of the Senate select committee, quoted above, all the military and medical records of the volunteer forces and the persons engaged upon them were consolidated under one head. This was accomplished by orders of the Secretary of War, dated the 3d and 16th of July, 1889, by which the Record and Pension Division of the Surgeon-General's Office and the following divisions of the Adjutant-General's Office, viz, volunteer service, enrollment, bounty and claims, remuster, correspondence, letters received, volunteer rolls and records (first division), volunteer rolls and records (second division), discontinued commands, prisoners of war, volunteer registers, deserters, and pension records were combined to form the Record and Pension Division of the War Department.

At the date of organization of the new division the work pertaining to the medical section was not in arrears, but in the divisions consolidated with it there were over 40,000 cases of all kinds on hand awaiting action at the time of transfer. About two-thirds of them were calls from the Commissioner of Pensions for the military histories of ex-officers and soldiers of volunteers to be used in the adjudication of pension claims, the remainder being calls from the Second Auditor for information relative to claims for back pay and bounty, applications from claimants or attorneys for remuster, removal of charges of desertion, and for various other purposes, but all requiring for reply or adjudication a search of the mutilated rolls and other military records.

The same methods which had proved successful in bringing up the arrearage of work existing in the medical section in 1886 were put into operation in the divisions recently consolidated with it and were followed by equally satisfactory results. Difficulties that had not been encountered previously were met as they arose by measures especially devised to overcome them, among which may be mentioned the abolition of the old system of record keeping in books of letters received, letters sent, and indorsements, and the substitution therefor of a modification of the index-record card system that greatly simplified the current correspondence of the office and materially diminished the labor of recording it. At the end of three months the large accumulation of work existing at the date of transfer had all been cleared off, together with the current business received during that period, and since that time all demands made upon the office from every source have been met without delay.

Up to this time it had been the practice of the Pension Office in obtaining from the War Department the record of enlistment, service, disability, and discharge or death of soldiers upon whose service claims for pension might be based, to make two separate calls in each case, one for the military history and another for the medical record, and the reply to each was made separately. It was found, too, that replies to these calls were unnecessarily extended and were made in accordance with a form which required that page after page of relevant and irrelevant matter should be laboriously transcribed by one set of clerks in the War Department, only to be gone over with equal labor by another set of clerks in the Pension Office in order to cull out from the mass of useless verbiage the matter pertaining to the claims. After full and free discussion between the Secretary of War, the Secretary of the Interior, the Commissioner of Pensions, all the principal chiefs of division in the Pension Office, and the officer in charge of the Record and Pension

Division of the War Department a unanimous conclusion was reached as to what is and what is not necessary for the proper adjudication of the various classes of pension claims. After this conclusion a new and much simpler form of call and report, requiring but one sheet of paper, was decided upon with the full concurrence of all concerned, and was at once adopted, with the result of greatly expediting and facilitating the work of both offices. A similar consultation was held with the Second Auditor of the Treasury and a new form of call and report for his office was agreed upon and adopted with the best results. After three years' use of the new forms of report it is proper to state that no complaint concerning them has ever been received at the War Department from any of the offices interested. On the contrary it is the unanimous testimony of all in authority in these offices, and of those best qualified to judge, that the changes made have been entirely in the interest of the public service and of the speedy and fair adjudication of pending claims.

INDEX-RECORD CARD SYSTEM APPLIED TO MILITARY RECORDS.

As soon as the work of the newly organized division had been brought up to date, so that calls made upon it were answered within twenty-four hours after their receipt, attention was turned to devising a plan for the preservation of the rapidly decaying military records. Their condition, which had been for a long time a source of anxiety to Congress and to each succeeding Secretary of War, had at last become deplorable. Made on the poorest paper, and having undergone the wear and tear of constant handling for more than twenty-five years, the rolls and returns were actually in tatters, and their total destruction in the near future appeared to be inevitable unless effective measures for their preservation should be adopted.

After careful consideration and repeated experiments it was found that the form of index-record cards that had been used in the work, then nearly completed, of transcribing the hospital records in the medical section was admirably adapted to the reproduction and preservation of the military records as well. Accordingly all the clerks of the recently transferred divisions who had been made available for other duties by the new methods of work introduced into those divisions were assigned to the medical section and added to the force engaged in transcribing the hospital records in order that this work might be completed as speedily as possible. On January 23, 1890, the carding of the medical records being nearly completed, the work of reproducing the military records by the same system was commenced, and has been pushed as vigorously as possible since that date.

THE RECORD AND PENSION OFFICE.

This office was originally organized in 1889 as a division in the office of the Secretary of War. It was created by an Executive order only, and depended for its continuance upon Executive authority for the time being. However, it was given a permanent establishment under its present designation by the act of Congress approved May 9, 1892, of which the full text is as follows:

AN ACT to provide for the permanent preservation and custody of the records of the volunteer armies, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the division organized by the Secretary of War in his office for the preservation and custody of the records of the volunteer armies under

the name of the record and pension division is hereby established as now organized, and shall hereafter be known as the Record and Pension Office of the War Department; and the President is hereby authorized to select an officer of the Army whom he may consider to be especially well qualified for the performance of the duties hereinafter specified and, by and with the advice and consent of the Senate, to appoint him in the Army to be the chief of said office, who shall have the rank, pay and allowances of a colonel and shall, under the Secretary of War, have charge of the military and hospital records of the volunteer armies and the pension and other business of the War Department connected therewith; and all laws or parts of laws inconsistent with the terms of this act are hereby repealed.

The work of this office, as was stated in the annual report made in 1890 by the officer in charge of the Record and Pension Division, as the office was then designated, embraces subjects of every conceivable nature relating to the service of the organizations, officers, and enlisted men of the volunteer armies, including inquiries for information from records dating from the earliest history of the Government; applications for certificates of discharge by soldiers who failed to receive them upon leaving the service; for certificates of service in lieu of lost discharges, authorized by act of Congress approved March 3, 1873; for recognition as veteran volunteers by reason of previous service; for medals of honor for meritorious and distinguished services rendered, authorized by acts of Congress approved July 12, 1862, and March 3, 1863; for change or amendment of record for various causes; for removal of charges of desertion, under act of Congress approved March 2, 1889; for names of comrades to enable applicants to obtain evidence for completion of pension and other claims; for recognition of officers as of higher grades under the acts of Congress approved June 3, 1884, February 3, 1887, and August 13, 1888; inquiries from parents, widows, children, and other relatives or friends of soldiers as to their fate; calls from the Second, Third, and Fourth Auditors, and the Second Comptroller of the Treasury, the Commissioner of Pensions, Commissary-General of Subsistence, Court of Claims, and other official sources, for the histories of organizations and individuals in the military service to be used in the adjudication of claims against the Government; applications from governors of homes for disabled volunteer soldiers for information to be used in admitting soldiers to the various homes; from the Grand Army of the Republic, Sons of Veterans, and Loyal Legion for records of service to enable these societies to determine the title of soldiers or their sons to admission thereto; from adjutants-general of States for data necessary to the completion of military records of the several States; and from State, county, and municipal authorities for information to be used in prosecuting claims against the Government, or in litigation connected with the payment of bounties or other matters incident to the raising of troops during the late war. In short, nearly all the business pertaining to the service record of the volunteer soldiers is transacted in this office.

In connection with the general subject of the work of the Record and Pension Office it may be said that since the arrears were first disposed of, in September, 1889, all communications have been answered, as a rule, within a day after their receipt, the record showing that during the last two fiscal years more than 97 per cent of the communications received from all sources were disposed of within twenty-four hours from the time they reached the office. The cases requiring a longer period for adjustment were delayed no longer than was necessary to insure a careful and exhaustive investigation, which may sometimes have consumed several days in particularly complicated cases. On the last day of each of the last three fiscal years the office has closed its work

for the year without a single case of any kind remaining on hand and undisposed of.

The amount and character of the current work performed by the office since its organization as a division of the War Department, in 1889, involving the receipt, investigation of and reply to 1,156,325 cases of all kinds, are shown by the following statement.

The cases on hand and unanswered July 8, 1889, were as follows:

From the Pension Office	23,424
From the Second Auditor	5,007
Remuster cases	4,365
Desertion cases	1,342
All other cases, miscellaneous	6,516
Total	40,654

From July 8, 1889, to the end of the fiscal year, June 30, 1890, 301,238 cases were received, as follows:

From the Pension Office	199,359
From the Second Auditor	35,487
Remuster cases	4,326
Desertion cases	8,509
All other cases, miscellaneous	53,557
	301,238
Add cases on hand	40,654
Total	341,892
On hand June 30, 1890	None.

During the fiscal year ended June 30, 1891, 459,497 cases were received and promptly disposed of, classified as follows:

From the Pension Office	345,759
From the Second Auditor	34,724
Remuster cases	3,160
Desertion cases	10,870
All other cases, miscellaneous	64,984
Total	459,497
On hand June 30, 1891	None.

The receipts for the fiscal year ended June 30, 1892, all of which were disposed of without delay, were 354,936 cases, as follows:

From the Pension Office	261,853
From the Second Auditor	26,226
Remuster cases	4,177
Desertion cases	11,568
All other cases, miscellaneous	51,112
Total	354,936
On hand June 30, 1892	None.

CONGRESSIONAL CORRESPONDENCE.

During the sessions of Congress a large amount of work devolves upon this office in connection with the preparation of reports in response to calls from various committees of the Senate and House of Representatives for information and advice relative to measures pending in their respective Houses. Many of these reports deal with subjects of national importance, involving the possible expenditure of great sums of money, and demanding close study and exhaustive investigation, while all of the reports made are more or less voluminous and require much care in their preparation. During the past fiscal year,

covering the first session of the Fifty-second Congress, 866 reports were prepared for the use of Congress, 303 having been furnished to committees of the Senate and 563 to committees of the House of Representatives.

Many requests are received each year from individual Senators and Representatives for information relative to volunteer officers and soldiers or the organizations of which they were members. This is always furnished promptly, and it is gratifying to be able to state that since 1889 there has been no occasion for a Senator or Representative to request that a case be made "special" in this office, or to inquire as to the cause of delay in acting upon it. But very few communications of this kind have been received, and all of them were written under a misapprehension of the facts. During the past fiscal year 2,395 letters from Senators and Representatives, 489 from the former and 1,906 from the latter, were received and answered.

REMOVAL OF CHARGES OF DESERTION.

The consideration of applications for removal of charges of desertion under the act of Congress approved March 2, 1889, as modified by the acts approved March 2, 1891, and July 27, 1892, forms an important part of the work of this office. Since July, 1889, 30,947 applications of this character have been received and considered. All of them have been acted upon promptly, and the work of adjudicating them has been kept constantly up to date. It is evident that under the very liberal laws governing the action of the Department a large proportion of the meritorious cases has been finally disposed of, although considerable numbers are still received through the Commissioner of Pensions or the Second Auditor of the Treasury, in whose offices the charge of desertion is frequently encountered in the process of the adjudication of claims for pension, pay, and bounty. Most of the cases now received from claimants or their attorneys possess no merit in themselves, or consist of additional evidence in support of applications heretofore denied. It is believed that on the expiration of the present law by time limitation, in two years from the 1st of July, 1892, most of the applications which are yet to be made for removal of charges of desertion will have been received and disposed of, leaving for consideration only those cases which were adversely decided during the life of the law but which may be revived in the future by the filing of additional testimony, or those in which it may be claimed that the charges of desertion were erroneously made.

CERTIFICATES OF DISCHARGE UNDER TRUE NAME.

Applications made under the act of Congress approved April 14, 1890, for discharge certificates under the true names of soldiers who enlisted under assumed names are also acted upon by this office. While such applications are not numerous, they require the exercise of considerable discretion and care in establishing the identity of the applicant and the reasons for assuming the name under which he enlisted and served. The operation of this law appears to have been attended by but very few objectionable results. As previously stated, the applications made under it are comparatively few, and these come almost entirely from persons who desire to take advantage of the act for sentimental reasons only.

REMUSTER.

The administrative action rendered necessary by the legislation providing payment for services rendered as commissioned officers by persons who were not recognized by their muster into service as of the grades to which commissioned, at and for the time the service was performed, has for many years engaged the attention of this Department.

The last enactment for the relief of such persons (that of February 3, 1887, extended by the act of August 13, 1888) expired by limitation on the 3d of June last, and claims for recognition for payment filed since that date can not now be considered.

During the last session of Congress a bill to extend the time for filing claims was favorably reported by the Military Committee of the House of Representatives, but failed to become a law. Measures looking to an amendment of the then existing law, enlarging its provisions of relief, were also introduced, some of them having for their object a removal in whole or in part of the restriction heretofore imposed with regard to officers serving with reduced commands.

The law of 1887, whose provisions have just expired, was the result of a series of amendments of a joint resolution passed in 1866, and its peculiar structure has been the occasion of a variety of interpretations. It is hoped that, should there be further legislation having the same or similar objects in view, it will be made in the form of a new enactment rather than a further amendment of old and obsolete statutes, so that its provisions may be definitely stated, thus simplifying its interpretation and enabling the executive departments in their action and correspondence to confine themselves to one source of authority.

INDEX-RECORD CARD WORK.

Notwithstanding the fact that the number of calls made upon the office during the past three years was greatly in excess of the number ever received before during the same length of time, the increase being largely due to the new pension legislation embodied in the act approved June 27, 1890, it has been possible to keep the current work of the office constantly up to date without diminishing the force engaged in carding the old records. The total amount of work of this kind that has been performed from the date of the inauguration of the index-record card system, April 27, 1887, up to the end of the last fiscal year is shown by the following:

Table showing the number of entries transcribed upon index-record cards from the military and medical records of the War Department since the commencement of this work on April 27, 1887.

Fiscal year.	Number of index-record cards made.		
	Military.	Medical.	Total.
1887	.....	168,687	168,687
1888	.....	1,839,349	1,839,349
1889	.....	2,751,435	2,751,435
1890	2,040,532	2,057,968	4,098,500
1891	8,802,266	77,361	8,879,627
1892	8,921,258	19,421	8,940,679
Total	19,764,056	6,914,221	26,678,277

The number of cards made and filed up to June 30, 1892, was 26,678,277. Since that time and up to the date of this report there have been added 2,582,721, making a total of 29,260,998.

At the close of the fiscal year ended June 30, 1891, the rolls of the volunteers raised in New York, Missouri, and Tennessee and of the United States colored troops had been carded. During the year ended June 30, 1892, the rolls of thirty-five States and Territories were carded, in the following order: Kentucky, Kansas, Iowa, Nebraska, Arkansas, Louisiana, Texas, Minnesota, Colorado, New Mexico, Arizona, California, Oregon, Washington, Mississippi, Utah, Alabama, Florida, Georgia, South Carolina, North Carolina, Virginia, West Virginia, Maryland, District of Columbia, Maine, New Hampshire, Vermont, Rhode Island, Connecticut, Delaware, Massachusetts, New Jersey, Wisconsin, and Michigan.

At the close of the fiscal year ended June 30, 1892, work had also been begun upon the rolls of the Pennsylvania troops and at the date of this report is well advanced, leaving to be carded only those of Ohio, Indiana, and Illinois. These States, however, furnished a large number of troops and their records are correspondingly voluminous. In addition there are also to be carded the records of the Veteran Reserve Corps and other United States volunteers, together with a large number of post, detachment, and miscellaneous rolls, reports, and returns.

It should be observed in this connection that the plan of reproducing the records of volunteers, which was at first intended to apply only to those of the late war, has been very much enlarged and has been made to embrace all the previous wars, including the Mexican and various Indian wars, of which there are any records in this office, so that there is a complete card index on file for each of the States that have been carded, showing the service, so far as recorded in this Department, of all the volunteers of that State that have been mustered into the service of the United States since the war of 1812.

Although this enlargement of the original plan has somewhat delayed the completion of the work, it is very fortunate that it was made, for Congress during its last session, by an act approved July 27, 1892, gave a pensionable status to the survivors of the various Indian wars and to the widows of deceased officers and enlisted men who were in the service during those wars. In view of the remoteness and short duration of the period of service in most of these wars the widows, and sometimes the survivors themselves, are able to furnish but little information concerning such service, and under the old system it would have been difficult, if not impossible, in many cases to furnish any evidence from the old records. But since their reproduction on index-record cards all the evidence those records afford in any case can be obtained with the greatest ease.

To the reproduction of the records not yet carded is also to be added that of the military records of the wars of the Revolution and 1812, now filed in the Treasury and Interior Departments, none of them having been in the possession of the War Department. In order that these scattered records might be more readily accessible for reference it was provided during the first session of the present Congress, by an enactment approved July 27, 1892, "that the military records of the American Revolution and of the war of 1812, now preserved in the Treasury and Interior Departments, be transferred to the War Department to be preserved in the Record and Pension Division [Office] of that Department and that they shall be properly indexed and arranged for use."

The records whose reproduction is thus contemplated have not yet een transferred, and their volume, which is understood to be large, is ot definitely known to this office; but the labor required to include ıem in the general system of index-record cards will considerably elay the final completion of the work. However, this is now so far dvanced as to justify the expectation that within a reasona ɔly short me the valuable records now filed in this office, and those yet to be ansferred to it, will be placed in such a condition as to insure their ermanent preservation.

CATALOGUE OF ORIGINAL RECORDS.

In order to thoroughly card the military records of the volunteer armies ; became necessary to prepare a catalogue of them, as it was found that here was no list of the most important of these records and no means f determining the nature of their contents, except by an actual examıation of them. If upon such an examination a certain record or set f records was not found it was difficult, if not impossible, to determine ertainly whether or not it had ever been on file. Indeed, the muster olls of a whole regiment might easily have been abstracted and the ffice would have had no record evidence to show that they were ever n its possession. In the preparation of this catalogue a careful examnation is given to all the rolls and other records pertaining to each State, and as this work has progressed it has disclosed the fact that housands of rolls, returns, and other papers have been lost to the ofice for many years. Such of them as are found during the searching xamination to which all the records of a State are subjected preparaory to carding them are returned to their proper places, noted upon the catalogue, and carded with the records of the organization to which hey belong.

MISSING RECORDS.

Many of the rolls that are missing from the files can not be found, ven after the most extended search, either because they were never eceived by the office, or, if they were received, because they have been bstracted or lost. In such cases the place of the missing documents s supplied, as far as possible, by rolls obtained by loan from the office f the Second Auditor of the Treasury, and these are carded.

Up to the date of this report 6,170 company rolls have been obtained rom the auditor's office and transcribed upon index-record cards, thus upplying deficiencies in the histories of many thousands of soldiers. n addition, 3,208 rolls have been obtained from the same source for the urpose of supplementing the information contained upon some of the adly mutilated, illegible records on file in this office, thus making a otal of 9,378 rolls that have been furnished by the Second Auditor.

FURNISHING INFORMATION FROM THE RECORDS.

The completion of the work of transcribing upon index-record cards he rolls of the volunteers furnished by many of the States, and the greater facilities thus afforded for obtaining the history of any individual who may have been in the service from these States, have produced a marked effect upon the general correspondence of the office. Claimants and their attorneys who, before the present system was adopted, would never have thought of asking for information in any case with-

out designating the company and regiment of the soldier to whom it pertained, knowing that without such data it would be difficult or impossible for the office to find the soldier's name, now do not hesitate to request a search of the records of several companies or regiments, or of a whole State, having learned that even in the last-named case the office is no longer helpless, as it was under the old system.

As the question of furnishing information from the records of the volunteer armies is a very important matter, and one concerning which there is a great deal of misunderstanding, it is deemed advisable to consider it, and the practice of the office with regard to it, somewhat in detail in this report.

Some conception can be formed of the magnitude and character of the collection of records whose custody is vested by law in this office when it is stated that it comprises more than four hundred thousand muster rolls, over one hundred and twenty thousand bound volumes, and an enormous mass of miscellaneous papers, all of which relate to subjects of every imaginable nature, from the enlistment of a private soldier to the operations of an army or the conduct of a campaign. In this collection is to be found the principal part of all that was contemporaneously recorded to show the histories not only of the officers and enlisted men of volunteers, but of the regiments, brigades, divisions, corps, and armies to which they belonged.

It is difficult to overestimate the value of these records either as a source of information for the future historian or as memorials of the patriotism and valor of the soldiers of a great nation. Their safe and faithful custody is a trust that entails great responsibility upon the officer to whose care they have been committed, and demands incessant vigilance on his part not merely to ensure their protection and preservation, but to prevent their being used to the detriment either of the Government or of individuals, or being made to cause annoyance or distress to anyone. Much of the matter contained in these records is of general interest and may be published with perfect propriety, as is now being done under the direction of a board created by law for that purpose; but there is also much that is of a delicate or purely personal nature, and that, while of no interest to the general public unless improperly used, is capable of being made the source of serious injury or annoyance to the person or persons affected by it, of disturbing the peace of families, and of alienating the confidence of employers and the good will and esteem of neighbors. The reputation of the living and the dead are in the hands of the custodian of these records, and he would be insensible to the high character of the trust confided to his keeping if he allowed them to be used to satisfy the purposes of personal spite and malice or of idle curiosity, or to meet the ever-recurring exigencies of political warfare.

But there is another and very important reason why the official records and the information they contain should be carefully guarded. Under the liberal laws that have been enacted within the past twenty years providing for the consideration and allowance of various classes of claims based upon military service the number of these claims has become enormous, and the danger of imposition and fraud upon the Government has increased correspondingly. It is evident that so long as this mass of claims remains unadjudicated a due regard for the public interests will not permit of evidence being furnished from the records except in such a way that, while the claimants shall be given the fullest possible benefit of everything of record pertinent to their claims, the door shall still not be opened needlessly to the perpetration

aud. For this reason, as well as for those previously mentioned, s been found necessary to scrutinize closely all applications for mation, and, when the purpose for which this is desired does not ar, to require the applicant to state it. Sentimental considerations ometimes urged as reasons why these requests should be complied , but further investigation usually reveals the fact that the much ı practical reason of a pending or contemplated claim is behind st every one of them.

is not uncommon for a person who intends to present a claim for ion, back pay, or bounty to inquire of this office whether a certain e is borne upon the rolls of a given organization, and, having received gative reply, to ask for the examination of the rolls of the same regi- t for another name, or for the examination of the rolls of another nent for the same name, repeating these inquiries until, if the de- ds upon the office have been complied with, a name is at last found corresponds with some one of those for which a search has been ested. In other cases where the name, company, and regiment of soldier appear to be known to an applicant the office is called upon rnish the military or medical record of the soldier, or both, in order the claim about to be made shall correspond with the record.

still another class of cases information is requested to enable a nant to furnish a statement concerning certain details of his case the accounting or adjudicating officer has called upon him to sub- independently of the official record, as a test of the justness of his n.

is plain that the object of all applications of the classes mentioned re is to enable the claimant to make his allegations in accordance the official record, so that when the latter shall be obtained from office by the officer adjudicating the claim, as it invariably is, the will be found to agree. It is not the practice in any of these cases rnish the information desired. No bureau or office charged with adjudication of claims desires this to be done, for such informa- is always obtainable by direct application to this Department; it always is desired that the allegations of a claimant or his wit- es should be made independently of the official records and in ac- ance with his or their own knowledge and recollection of the facts. his rule were not observed the Government would be deprived in e measure of the protection that is now afforded by its ability to the truthfulness of allegations made by or in behalf of claimants omparing the same with the official records.

'hile the observance of this rule is necessary both in the interests he Government and of honest claimants, its non-observance would ttended with no benefit to the latter. No such claimant has any l of evidence from the records to prosecute his claim. All that he quired to do is to make his statement in accordance with the facts are within his knowledge and recollection, being assured that the plete official record will be promptly furnished by this Department e proper adjudicating office to confirm his statement or supplement need be.

'ith reference to a class of cases, usually those of widows, children, ependent parents, in which little or nothing is known of the alleged ice upon which claims are proposed to be based, but in which a e or less indefinite search of the records is requested in the hope of ing some foundation for the claims, it is proper to remark that there ren greater reason for refusing to furnish information from the rec- *directly to* the claimants. It is absolutely necessary that in any

claim based upon military service the identity of the person said to have rendered such service shall be fully established. But among the many thousands of names borne upon the records of the volunteer armies even those which are extremely uncommon can almost always be found referring to two or more different persons if sufficient search is made, while the more common ones are to be found, often several times repeated, in nearly every regiment in the service.

It is safe to say that the name of almost any man upon whose alleged service as a volunteer soldier a claim is based can, with sufficient search, be found upon the records of some volunteer organization; but it is certain that a due regard for the interests of the Government, and of honest claimants as well, will not permit of such a record being furnished to a claimant who is not only unable to specify the organization in which the alleged service was rendered, but who even stands ready to appropriate as the basis for the proposed claim the first record of service that may be found in connection with the name, or with any one of several names, for which a search has been requested. It is evident that, whether ignorant or dishonest, such a claimant can not safely be allowed access to the official record, for in either case there is danger that if information were so obtained it would be improperly used.

The data which are required by the Pension Office, or any other office, before a claim can be filed therein are equally necessary to enable this Department to identify with any degree of certainty the record of the person upon whose service a claim may be based. It can involve no hardship to require that such data should be obtained independently of the official record and furnished to the bureau or office in which the claim is to be filed, with the assurance that all the information relative thereto which the records of this office afford will be promptly communicated to the officer charged with the adjudication of the claim upon his call therefor. On the other hand, it is apparent that to furnish such information to claimants of this class or their representatives would facilitate the prosecution of baseless or unjust claims and would multiply the already too abundant opportunities for the practice of imposture and fraud upon the Government.

INDEX-RECORD CARD SYSTEM AS APPLIED TO CURRENT BUSINESS.

After more than three years' experience with the index-record card system as adapted to the current correspondence of the office it has been found that the hopes formed as to its economy and utility have been fully realized. It is found that, in addition to its greater economy of time and labor, for all practical purposes of a record of papers received and of the official action of a public office it is in every respect satisfactory, and that as a means of ready reference it is vastly superior to the old and more cumbersome system of book records.

As requests are constantly being received from public offices and other sources for a detailed description of the card system which has been substituted in this office for the older methods of record-keeping in books of letters received, letters sent, and indorsements, and as it is desired that this the first annual report of the office as permanently established shall fully set forth the methods of business in operation therein, it is thought proper to reproduce in this connection, from a report made by the officer in charge of the Record and Pension Division in 1890, a description of the method of using the index and record cards in the current correspondence of this office, where the system was first devised and all its details worked out and practically applied.

As soon as the mail received from the post-office is opened, the mail clerks take the letters. which for convenience will be designated cases, and place with each a record card and an index card, both being printed blanks of a uniform size, 8 by 3¼ inches. They are taken immediately by a constantly moving messenger to the desks of ten or more clerks, who brief the communications, if not already briefed, and enter in appropriate spaces on both the record and index cards the source and the nature of the cases. If necessary the briefers also prepare cross-reference index cards. As soon as briefed each case is carried to the stamping desk, where it and the accompanying cards—record, index, and cross-reference—are stamped with the office or file number and the date of receipt, the same number being given to the case and all the cards. The index and cross-reference cards are here withdrawn from the case, the latter card being placed on the alphabetical index files, the former, without filing, being arranged numerically for a purpose to be explained further on.

The case and the record card are taken with the same celerity from the stamp desk to the index clerks, who search the index card files for record of previous action. If there has been any previous action it is ascertained instantly, as the index cards are filed in perfect dictionary order, with suitable projecting tag cards showing subject or surname, and, where advisable, the christian name also. The index card thus found shows the number of the former record card in the case, which is taken from the files and also placed with the case, the two record cards, the old and the new, being connected by writing the number of each on the other. This stage is reached within fifteen minutes after the receipt of the paper from the post-office. The case is next sent, by a five-minute messenger service, to the files division on the next floor, where the papers corresponding to the file number of the previous record card are immediately withdrawn from the files and placed with the case, and the whole, viz, case, new record card, old record card, and previous papers are forwarded to the division to which the subject involved pertains. Here, if it is found that information is needed from any other division of the office, the request for such information is written on the record card, and the case sent there with the card. The desired information, if found, or the reply, is also written on the record card following the request. In fact, everything that is done with or about the case until it is completed appears upon the record card. Should this be filled on both sides, an extension slip is pasted to it. The office letter, or indorsement, finally disposing of the case is also drafted thereon, and from this draft, after approval, the formal letter or indorsement is prepared by the copyist or typewriter for signature.

After letters and indorsements are signed they must all go to one desk, still accompanied by the record cards. Here the letters, or cases, are separated from their accompanying cards and mailed. The cards are stamped with date of disposition of the cases, then arranged numerically and compared or tallied with their respective index cards, which have also been so arranged and have been awaiting in the mail room the return of the cases that they represent. The record cards are finally placed on file in numerical order for future reference and their corresponding index cards distributed in the general alphabetical file.

The index cards remaining untallied at the close of the day show exactly what cases have not gone out of the office, as each index card remaining over represents a case still in the office. They furnish at the close of each day instantaneous, positive, and definite information,

including name, source, and nature concerning each case not answered on the day of receipt, and readily enable inquiry to be made into the cause of delay. Temporary duplicates are made of the index cards remaining over at the close of the day, to be used for tallying their respective record cards next day, the originals being placed in the regular alphabetical index files.

The record card, being filed under its proper number, is easily found by means of the alphabetical index or cross reference card, and whenever referred to will not alone show in compact form all concerning the case which it represents that books of letters received, letters sent, and indorsements could have shown, but also what clerks dealt with it and all the internal office action so necessary to a full understanding of the subject involved.

It will thus be seen that the record card is practically a miniature individual record book—letters received, letters sent, and indorsements all in one—and that it is no longer necessary to send a case to a particular room or desk to record action in an unwieldy volume or to ascertain previous action. On the contrary the book in the form of a record card is always found with the case wherever it may be undergoing action.

Under this system any number of clerks can be utilized in briefing, recording, and indexing letters received, and as many are withdrawn from other work as are needed to get the mail under action immediately after its receipt. As soon as this is done they return to their regular work. The cases are briefed, recorded, numbered, and indexed, the former record cards, if any, are found and placed with them, and the cases themselves commence to flow rapidly in a continuous stream from the mail division, ready for action in the other divisions, within fifteen minutes after the mail is received from the post-office, whereas under the former method of recording in books, and moving mail from desk to desk only once or twice a day, several days were required to bring a case to this stage.

MAIL AND MESSENGER SERVICE.

Quick messenger service is then all-important to carry this mail to and from all parts of the office until final action is had in each case. For this purpose a regular five-minute mail service has been established, and deserves a full description, as it has proved a remarkable success, silently and promptly moving papers and packages in all directions every five minutes in the day, with automatic precision, accuracy, and dispatch, and without the necessity of calling or ringing for messengers, giving them any directions or addressing communications or packages with pen or pencil, and without any addition to the messenger force employed in the office under the former system.

The rooms of the Record and Pension Office, 75 in number, in the State, War, and Navy building are located on four floors, and on all four sides of this large building. In these rooms 103 mail boxes or stations are established. Each box contains three compartments, each 5 inches square and 5 inches deep, the opening being at the top so that a case placed in it can be readily seen. In one compartment is placed all out-going mail intended to move in one direction, designated for convenience "up;" in another is placed all out-going mail to go in the other direction, designated "down." In the middle compartment is placed the mail addressed to the desk or room in which the box is located. All mail to be sent from a station is inclosc l in office mail

cards, having the number of the room from which sent plainly printed in red on one side, and the number of the room to which it is to go printed in black on the other. Where there are several mail boxes in a room the names of the clerks on whose desks they are located are also printed on the cards.

Ten of the messengers who formerly sat at the doors of different rooms and carried individual special messages, or armfuls of accumulated cases at long intervals of time, are detailed for this messenger service. Each starts from the first station, goes along a fixed route designated the "up" route, which leads past every one of the 103 mail boxes to the most remote one in the office, and returns by the same route to the first. On the "up" trip he picks up all outgoing mail found in the "up" compartments and delivers it in the respective receiving compartments on his route, according to direction on the mail card. On his return trip he picks up all mail from the "down" compartments and delivers it in the same manner.

As these men start regularly and punctually five minutes apart, and all go over the same route, the result is a perfect and uninterrupted five-minute communication between all the important desks in every room throughout the whole office, and no case under any circumstances can lie idle longer than five minutes. In fact, the average delay is only two-and-a-half minutes.

By means of clearly marked boxes and plainly addressed mail cards the messengers collect and deliver mail without halting in their steps. An actual count on an ordinary business day showed that they carried 9,020 mail cards.

In order to obtain the full benefit of this means of speedy communication every clerk is required to be diligent in his work, and is not permitted to have more than one case under consideration at a time; and as soon as he has finished his part of the work on this case, or finds that he needs information from records in another branch of the office, he immediately dispatches it to the proper desk or room. For this purpose he is provided with suitably addressed mail cards, placed in a convenient box, each set of cards being clearly indicated by projecting tags, so that he can pick out the desired card as readily as a typewriter can touch a particular key. He then draws his next case out of the receiving box on his desk or in his room.

One of the important advantages of this system of mail boxes is that all cases not actually undergoing action in any room or section of the office stand in full view in the receiving boxes. In fact an hourly report is made to the chief of the office by every division. From this report can be seen at a glance the number of cases awaiting action in each room at any hour of the day, and whenever it appears that a room or division can not dispose of its mail before the day is over clerks are drawn from some other division that is closer up with its work, so that all shall be clear at the close of the day.

The fact that each clerk has only one case in hand at a time instead of from ten to fifty as under the old system, and the ease and rapidity with which he can send for information from the records filed in the remotest portions of the office, enable him to give his work more careful consideration and to exhaust more thoroughly the records bearing on a case than was possible under the former practice wherein the ever vexatious question to be answered in almost every complicated case was, "Shall this case be subjected to a further delay of weeks or months in order to have a doubtful point cleared up?" Under the present method of work he knows that every inquiry he addresses to any branch of the

office whatever will be taken up within a few minutes after it leaves his hands and as promptly returned to him, and he feels a pleasure in causing every available source of information to be exhausted before allowing his work to finally leave his desk.

The fact that every case awaiting action is always in full view is sufficient guard against its being overlooked or forgotten, as all pigeon holes have been abolished. But should a case by any possibility be mislaid the fact that the corresponding index card in the mail room comes to the top of the untallied cards next day will cause immediate search to be made for it. Thus there are two checks against cases being overlooked or neglected; the first is almost all-sufficient; the other is absolutely so.

TEMPORARY FILE.

There is another way, however, in which many cases have been buried for years under the old book system. For instance: In a certain case it becomes necessary to write to the adjutant-general of a State for information, or to another Department of the Government, or to any third party, before further action can be taken by the office. Formerly it was the invariable custom to file the papers pending the receipt of a reply. If no reply was received the case was absolutely buried until the claimant called it up again, there being no method by which it could be unearthed otherwise. To guard against this only possible cause of delay, whenever any case is referred, or any letter written, to an office or person other than the one filing the case, a "temporary card" is made for such case and kept in a separate "temporary file," which is carefully scrutinized each day, with a view to bringing up any case in which the call of the office has not elicited a reply within a reasonable time. If no reply is received within a reasonable time the request is renewed or other measures are taken to obtain the information desired and settle the claim. When a reply is received the temporary card is destroyed and the case immediately taken up for further action. By means of this little "temporary" card file it is possible to see at a glance what cases are awaiting replies from persons not under the control of this office, and it is made impossible for such cases to be overlooked or forgotten and allowed to slumber indefinitely upon the files, as is sure to happen frequently under the old system in any office the work of which is at all extensive.

CLERICAL FORCE.

All of the clerks and copyists employed in this office are in the classified civil service and all new appointments to those grades are made upon certification from the Civil Service Commission. Appointments thus made have been, in the main, satisfactory, but few candidates having been rejected after the expiration of their six months' period of probation. As all newly appointed clerks and copyists must be assigned to the work of reproducing the military records upon index-record cards, it has been found necessary to exercise great care to select only young, clear-sighted, and able-bodied men for appointment. The rolls and other records from which the cards are copied have become so worn and tattered from many years of constant handling and the writing upon them has become so faded that the keenest and strongest vision is often taxed to its utmost to decipher the almost illegible entries. Trying as this work is upon the sight of young men, it is very much more so in the case of those advanced in life, and no one beyond

iddle age should be allowed to undertake it. Furthermore, vigorous nd able-bodied men are required, because it has been found that those ho are feeble or disabled soon go upon the sick-list, complaining of the nfinement, the exhausting character of the work, or the difficulty of imbing the long flights of stairs which they are compelled to ascend reach their work, there being no elevator in the building in which ey are employed.

Under the operation of the War Department order of March 2, 1892, sued in accordance with the directions of the President, all promotions this office of persons in the classified service have been made strictly accordance with the efficiency lists and in full compliance with the der referred to. While it is clearly not possible to devise any system r the regulation of promotions to the satisfaction of all concerned, and hile injustice will sometimes be done under any rule so long as human dgment is fallible and so long as it is impossible to measure some of e highest qualities of the intellect by an automatic process or to state heir values numerically, it is believed that the system in operation in his office is as free from objectionable features as any that has yet een devised.

Under it the promotion of a clerk is made to depend wholly upon the ecord he has made for himself and the capacity he has shown for the erformance of the duties of the higher grade.

One of the greatest difficulties in the way of preparing an efficiency ist which shall represent fairly the relative standing of a large number f persons, employed in several divisions and engaged on many different inds of work, is that of securing uniformity of rating by the chiefs of livisions or supervising clerks in those elements of the efficiency record hich can not be ascertained automatically and must necessarily be estimated. It is but natural that the chief of each division should, if allowed to do so, give many if not all of the persons under his immediate harge as high a rating as possible, regardless of their value to the office s a whole, in the hope that the earliest promotions may fall to his division. Again, it is not unnatural that a chief of division should occaionally, through personal feeling or lack of judgment, give some of his lerks a lower rating than they deserve. To meet this difficulty the lerks in charge of divisions in this office, while allowed and encouraged o use their own judgment in reporting the relative standing of each of heir subordinates, are restricted to a certain maximum limit beyond hich no rating shall be given and below which, for a certain distance, o two persons shall be given the same mark. In this way the division hiefs are compelled to express their judgment as to the actual relative tanding of each person reported on by them, instead of giving several r all of them the highest assignable figure, as has been the custom hereofore; and provision is thus made for a subsequent revision of the list y raising the rating of those who are manifestly marked too low.

The reports of the chiefs of all divisions are finally submitted to a oard composed of employés of the highest grades, the majority of hom are not immediately connected with any division and are therefore presumably capable of exercising unbiased judgment. This board arefully reviews the rating of each person as given by the division hief, raises it if it is believed to be too low and lowers it if it is found o be too high, bearing in mind continually the character of each emploié and his value to the office as a whole, and finally prepares an fficiency list in accordance with the revised markings. This list is pproved by the chief of the office without change, and, having been ransmitted to the Secretary of War, all promotions are made in accord-

ance with it until the preparation of the next list, unless, during the meantime, any person shall forfeit the right to promotion by reason of serious misconduct or marked inefficiency. In such case the next eligible person on the list receives the promotion.

This system seems to be a fair one and to afford the least possible opportunity for personal bias or prejudice to work injustice to anyone. Promotion is made to depend entirely upon the fitness of the employés, as demonstrated in the actual work of the office, and not upon the uncertain results of an examination upon subjects that may not have the remotest connection with or bearing upon that work. At any rate, the system gives much more general satisfaction than any that has heretofore been given a trial in this office, and it is believed that its results fully warrant its continuance without material change.

OFFICE ORGANIZATION.

The work and clerical force of the office have been classified and distributed with a view to securing the greatest economy of labor consistent with the accurate and prompt dispatch of public business. There are two distinct branches of the office, one of which, composed of twelve divisions, is occupied with current business, and the other, consisting of four divisions, with the work of reproducing the records of the volunteer armies by the index-record card system. In the first-named branch 327 persons are employed and in the second 531, making the total force of the office 858 persons, of whom 797 are clerks and 61 are messengers, laborers, watchmen, and other employés not in the classified service.

The clerical grades are distributed as follows: Chiefs of division, 2; clerks, class four, 20; clerks, class three, 43; clerks, class two, 90; clerks, class one, 465; clerks, $1,000, 127; copyists, 50.

The twelve divisions composing the branch which is chiefly occupied with the current business of the office are as follows:

Administrative Division.—Mr. Jacob Frech, chief of division and chief clerk of the Record and Pension Office, is in charge of this division. Its duties are to supervise the clerks and business of both branches of the office in order that the work of all the divisions may be conducted with economy of labor and harmony of action, and to attend to all the details of the general administration of the affairs of the office. All matters relating to the discipline and conduct of employés, assignments to duty, promotions, reductions, discharges, applications for leave of absence, and other subjects of a kindred nature are taken cognizance of in this division. An important part of the work of this division is the special investigation of cases pending in the bureaus and offices of other departments, but which require action on the part of this office before a final settlement can be had. This class of work is under the charge of Mr. Joseph S. McCoy, clerk, class four, who gives it his personal attention.

Correspondence Division.—To this division, in charge of Mr. John C. Hesse, clerk, class four, are assigned the consideration of questions relating to the volunteer service and the individual members thereof; the investigation and correction of the records of officers and enlisted men; the furnishing of original discharge certificates and certificates in lieu of those lost or destroyed; the furnishing of certificates under the seal of the Department for use before the civil courts and in foreign countries; and the general correspondence of the office relating to the volunteer forces.

Reference Division.—This division, in charge of Mr. Elon A. Woodward, clerk, class four, is intrusted with the preparation of a digest of the laws, orders, and regulations affecting the volunteer forces, the opinions of the law officers of the Government, the decisions of the courts, and the rulings of the War and other Departments that may serve as precedents in the transaction of the current business of the office. To this division are referred questions of law and departmental practice. It is also charged with the conduct of certain miscellaneous correspondence, including the preparation or revision of reports to committees of Congress on pending legislation, and the examination and revision of office notations affecting the individual records of officers and enlisted men. Connected with the division is a force employed in repairing mutilated rolls, so that they can be safely placed in the hands of the copyists to be transcribed upon cards and afterwards filed away in such a condition that their preservation from further destruction will be assured.

Deserters Division.—The work of this division, which is in charge of Mr. William G. Powers, clerk, class four, is that of adjudicating applications for removal of charges of desertion standing against volunteer soldiers of the Mexican war and the war of the rebellion, including the correspondence connected therewith and the amendment of the records in accordance with the decision finally rendered in each case; the investigation of charges of absence without leave and desertion standing upon the record of volunteer officers in the war of the rebellion; the determination of the final record of officers and enlisted men when no record of discharge or death is to be found upon the rolls; the issue of discharge certificates under the true name of officers and enlisted men when it is proved that service was rendered under an assumed name; and the preparation of reports upon bills introduced into Congress with a view to the removal of charges of desertion.

Medical Division.—In this division, in charge of Mr. Luther W. Slater, clerk, class four, are filed both the original records and the index-record cards upon which they have been transcribed, of general, post, field, and regimental hospitals, embracing the medical records of individual officers and soldiers of the regular and volunteer armies. This division furnishes the medical histories of officers and enlisted men that are required for the adjudication of pension and other claims. A part of the force is also engaged in assorting individual or personal papers and arranging them preparatory to their being filed with the military index record cards.

Mail Division.—This division is in charge of Mr. George W. Pratt, clerk, class four. Its duties consist of the reception of the official mail, numbering, stamping, briefing, and indexing the same, and addressing and mailing the completed correspondence of the office; the preparation of reports of military service from the index-record cards of those organizations whose original records have been transcribed upon cards; the examination, for the purpose of insuring accuracy and completeness in the answers to inquiries received, of all reports upon calls for statements of service; the preparation of a catalogue of the muster rolls and other records of military service; and the indexing and arrangement of these records for the purpose of carding.

Rolls Division.—The work of this division, in charge of Mr. Henry Douglas, clerk, class four, is that of furnishing information to other divisions of the office and the preparation of reports for other offices, from the rolls and other regimental records not yet carded, and the assorting and arranging of individual or personal papers of volunteer

officers and enlisted men and placing them in envelopes, to be filed with the index-record cards when completed.

Division of Discontinued Commands.—This division is under the charge of Mr. George W. Salter, clerk, class four. Its records include the books and papers of the numerous military departments, corps, divisions, brigades, districts, posts, and other commands of the armies now passed out of existence, dating from the year 1817 and embracing the military districts existing during the reconstruction period. The records of the Bureau of Refugees, Freedmen and Abandoned Lands are also filed in this division. It is the duty of the division to report upon all questions in connection with which a consultation of its records is required.

Enrollment Division.—In this division, under charge of Mr. James R. Gibson, clerk, class three, are filed the general records of the late Provost-Marshal-General's Bureau and its various branches, including those of the superintendents of the volunteer recruiting service, and the chief mustering and disbursing officers and acting assistant provost-marshals-general of States. It is the work of the division to furnish information from these records in all cases where it is required, and to report upon all general questions relative to the enrollment and drafting of the military forces of the United States, the bringing into service of volunteers, substitutes, and drafted men through the agency of the Provost-Marshal-General's Bureau, their physical examination, acceptance or rejection, with cause therefor, and their muster in, reception at rendezvous, and final disposition.

Bounty and Claims Division.—This division, of which Mr. Arthur M. Muzzy, clerk, class three, is in charge, contains the records and papers pertaining to disbursements by officers of the Adjutant-General's Office and the Provost-Marshal-General's Bureau on account of the appropriations for collecting, drilling, and organizing volunteers, the payment of bounty, and the draft and substitute fund; also the disbursing records of the late Freedmen's Bureau. The work of the division consists of the examination of these records and furnishing information therefrom.

Prisoners of War Division.—Mr. Benj. D. Thomson, clerk, class two, is in charge of this division. Its records comprise those of Federal and Confederate prisoners of war, state and political prisoners, and the correspondence relating to individuals and to the general subject of the parole and exchange of prisoners of war. The division furnishes information from these records whenever the same is required for use in other divisions of this office, or in other bureaus and offices.

Files Division.—Mr. Eugene Gaither, clerk, class four, is in charge of this division. In it are filed the retained papers and the records of correspondence by the Adjutant-General's Office, from the beginning of the war of the rebellion, relative to officers and enlisted men of the volunteer service and the organization, service, and muster out of the volunteer forces; also the letters-received files of the Record and Pension Division and the Record and Pension Office. The work of this division is that of searching the records, furnishing papers and information to other divisions, and placing on file and preserving in order the retained papers relating to current correspondence.

TENTH STREET BRANCH.

This branch of the office, which is occupied with the work of reproducing the muster rolls and other records of the volunteer armies by the index-record card system, is under the immediate charge of Mr.

Oliphant B. Brown, chief of division. The four divisions composing it are located in the old Ford's Theatre building on Tenth street, and here all the work of preparing the cards and transcribing the records is done. After the original records have been copied they are returned, together with the cards which represent them, to the State, War, and Navy building, where they are stored in such a way as to insure their permanent preservation, the cards being filed separately and being subsequently used to meet the demands of the current work of the office. The divisions composing the branch under the charge of Mr. Brown are as follows:

Copying Division.—This division, in charge of Mr. Albert G. Yount, clerk, class four, is engaged in transcribing the records upon the cards previously prepared for the purpose.

Comparing Division.—In this division, under the charge of Mr. Jeremiah R. Imbrie, clerk, class four, the cards, received from the copyists, are carefully compared with the original records as a safeguard against errors and omissions, and the correctness of each copied entry is determined with absolute certainty before the card bearing it is allowed to leave the division on its way to the files.

Examining Division.—In this division, which is under the charge of Mr. James W. Webb, clerk, class four, is made the final examination and arrangement of the cards containing the several items that go to make up each soldier's record. After leaving the comparers, and before reaching this division, the cards have been stamped by an automatic numbering machine, distributed and arranged in such a way that those pertaining to each person will fall together, and then placed in envelopes properly briefed. Upon receiving these cards the examiners arrange them in chronological order, investigate and remedy, if possible, any defect that may be discovered in the record of service, and make the necessary reference cards to account for all discrepancies in the spelling of names and to show the different organizations in which the soldier may have served or to which he may have been temporarily attached.

Miscellaneous Division.—In this division, in charge of Mr. William E. Harley, clerk, class four, the cards are designed and printed to meet the general and special requirements of each organization, and the verified and completed cards are stamped by automatic numbering machines, replaced in the briefed envelopes, and sent with the original records to the State, War, and Navy building for file. In this division is also prepared the general index by States, showing by an alphabetical arrangement the name, rank, and regiment of every officer and enlisted man.

It is due to the clerks whose names have been mentioned in the foregoing description of the various classes into which the work of the office is divided, and to many others as well, to state that they have performed their duties with commendable zeal and fidelity. Especial credit is due to the clerks in charge of divisions for the efficient manner in which they have discharged the responsible and onerous duties that have been assigned them. To their cordial and intelligent coöperation and assistance are due in large measure the satisfactory results that have been accomplished.

This report, which is intended to set forth all the principal facts in the history of the Record and Pension Office, would fall short of its purpose if it did not contain especial mention of the valuable services that have been rendered by Mr. Jacob Frech, chief clerk of the office. From the beginning he has patiently and cheerfully shared with the

officer in charge the labor and anxiety attending the introduction, development, and support of the new measures of administration and methods of business that have been devised to overcome the many difficulties encountered in the effort to apply and maintain a practical, efficient, and business like system of conducting the affairs of the office. For whatever measure of success may have attended this effort no one is entitled to greater credit than Mr. Frech, and it is simply an act of justice to make this acknowledgment of the value of his services and to commend him for the industry, intelligence, and self-sacrificing devotion to duty which he has uniformly displayed in one of the most trying positions in the public service.

Very respectfully,

F. C. AINSWORTH,
Colonel, U. S. Army,
Chief, Record and Pension Office.

The SECRETARY OF WAR.

REPORT OF THE WAR RECORDS' BOARD OF PUBLICATION.

REPORT

OF THE

WAR RECORDS BOARD OF PUBLICATION.

WASHINGTON, D. C., *July 27, 1892.*

SIR: The Board of Publication of the Official Records of the Rebellion begs leave to submit the following report of its operations during the fiscal year ending June 30, 1892:

At the close of the last fiscal year there remained on hand, undistributed, the full edition of 11,000 copies of Part 4 of Volume 34 and Parts 1 and 2 of Volume 35. Eleven thousand copies of Volume 36, Parts 1, 2, and 3; Volume 37, Parts 1 and 2; Volume 38, Parts 1, 2, 3, 4, and 5, and Volume 39, Part 1, were printed and bound by the Public Printer, and were delivered to, and distributed from, the document room of the War Records Office, during the year ending June 30, 1892. Four more volumes were printed and were in different stages of indexing at the close of the year.

Those books cover the operations in the Transmississippi Department from January 1 to June 30, 1864; the operations on the seacoast of South Carolina, Georgia, and Florida from January 1 to November 13, 1864; the wilderness campaign and the operations against Richmond and Petersburg from May 1 to June 12, 1864; the operations in Maryland and the Shenandoah Valley from May 1 to August 3, 1864; the Atlanta campaign, May 1 to September 8, 1864; and the operations in Kentucky, southwest Virginia, Tennessee, Mississippi, Alabama, and North Georgia, May 1 to November 13, 1864.

The work of examining files and archives and of selecting, copying, and comparing material for the remaining volumes of the several series has been continued without interruption during the entire fiscal year.

Work on the atlas of maps and plans has also been carried forward, and plates 1 to 20, inclusive, have been printed and distributed during the year. Ten more plates were ready for distribution on June 30, and the lithographic work upon plates 31 to 60, inclusive, is well advanced toward completion.

The following notes of work accomplished in the several departments of publication will convey an idea of the variety and amount of labor required in connection with the preparation and publication of the several volumes. One hundred and twenty thousand books have been received and 138,123 have been distributed; 44,000 copies of Parts 1 and 2 of the Atlas have been received and distributed; 6,097 books and parts of the Atlas have been sold; 11,336 letters, cards, etc., have

been received, and 11,670 letters, cards, circulars, etc., have been mailed in response to inquiries; 593,858 labels have been prepared, and 184,690 labels have been compared and verified during the year. During the same period 16 books have been indexed (163,000 cards having been used for this purpose), and the general index to the entire work has been commenced and carried well forward toward completion. Thirty-seven thousand three hundred and thirty-seven folios of manuscript have been copied and compared; 22,064 pages of proofs, in galley and page forms, have been examined, and 44,000 sheets of manuscript have been verified, corrected, and prepared for publication.

In closing, it again gives the Board great pleasure to recognize the efficient assistance it has received from the officers engaged on the work and from the employés connected with the different departments of the office. Their labors have been zealous and untiring, and the services rendered by them have been entirely satisfactory.

GEO. B. DAVIS,
Major and Judge-Advocate U. S. Army.
LESLIE J. PERRY,
Civilian Expert.
J. W. KIRKLEY,
Civilian Expert.

The SECRETARY OF WAR.

BOARD OF COMMISSIONERS OF THE SOLDIERS' HOME.

REPORT

OF THE

BOARD OF COMMISSIONERS OF THE SOLDIERS' HOME.

THE SOLDIERS' HOME,
OFFICE OF THE BOARD OF COMMISSIONERS,
Washington, D. C., November 30, 1892.

SIR: In compliance with section 1 of the act of Congress approved March 3, 1883, prescribing regulations for the Soldiers' Home in the District of Columbia, I have the honor to submit the following report of the Board of Commissioners of the Soldiers' Home for the year ended September 30, 1892.

The following statement shows the number on the rolls of the Home September 30, 1891, the gain and loss, and the number on the rolls September 30, 1892:

	Regular.	Temporary.	Total.
On the rolls September 30, 1891	1,136	102	1,238
Admitted since	179	338	517
Readmitted since	106	.....	106
	1,421	440	1,861
Withdrawn from the Home	206	.....	206
Dropped, dismissed, etc	175	134	309
Died	60	8	68
Transferred to permanent roll	.....	89	89
	441	231	672
Number on the roll September 30, 1892	980	209	1,189

The total number of inmates (1,189) are accounted for as follows: Present at the Home, 742; on out-door relief, 328; on furlough, 93; in the Government Hospital for the Insane, 18; suspended, 7, and 1 absent without leave. While the total number now on the rolls is 49 less than last year, the number of resident inmates is 5 more and is steadily increasing, the daily average number of inmates being 745 during the past year against 718 the year preceding.

Temporary relief to destitute discharged soldiers who were not entitled to regular admission was provided during the year to the extent of 2,847 meals and lodgings for a few nights each to 452 men.

Of the 68 deaths reported, 14 were members absent on out-door relief, 3 in the hospital for the insane, and 5 on furlough.

Out-door relief was withdrawn from 110 members who were either receiving pensions from the Government of $8 or more per month or who had property or employment which placed them beyond actual need.

The future interests of the Home require of the Board the greatest care in the expenditure of its funds so as to keep the expenses within the current income. It has therefore been necessary to restrict the granting of out-door relief to such persons only as are in absolute need of aid and who for good and sufficient reasons can not become resident inmates.

The condition of the funds of the Home, and the receipts and expenditures during the year, are as follows:

THE PERMANENT FUND.

Balance in United States Treasury October 1, 1891		$2,427,986.34
Settlements for the current year and of old accounts placed to the credit of the fund	$172,954.47	
Withdrawn on requisitions for current expenses	111,000.00	
		61,954.47
Balance in United States Treasury September 30, 1892		2,489,940.81

ACCOUNT OF THE TREASURER OF THE HOME.

Remaining on hand September 30, 1891		9,535.33
Received during the year:		
From the permanent fund		111,000.00
Interest on the permanent fund		73,549.29
Effects of deceased inmates		1,969.38
Miscellaneous receipts		2,763.80
		198,817.79
Disbursements:		
Current expenses	$196,408.88	
Permanent improvements	244.55	
		196,653.43
Balance on hand September 30, 1892		2,164.36

The following is a comparative statement for the years 1890, 1891, and 1892 of some of the items of current expense:

	1890.	1891.	1892.
Subsistence	$44,735.60	$47,211.26	$44,313.15
Out-door relief	34,310.81	42,092.43	31,298.48
Expense of dairy, farm, garden, and grounds	26,622.40	23,545.51	21,591.90
Extra-duty pay and monthly allowance to inmates	23,970.63	25,956.20	21,580.88
Clothing	16,344.20	13,600.49	13,889.41
Fuel	8,032.76	8,719.15	9,136.99
Laundry work	4,720.71	6,422.60	6,383.75

The statement of the condition of the permanent fund shows a decrease in the settlements passed to its credit during the year of $116,232.44 from the amount received the preceding year. This is due to the existing law under which settlements of accounts prior to March 3, 1881, have been stopped; but, as during the year no expense was incurred for new buildings, the permanent fund has been increased by $61,954.47, and has about reached its maximum, the settlement of accounts since March 3, 1881, having been nearly completed.

The current expenses, as shown by the treasurer's account, were $196,408.88, being $3,364.23 less than the previous year, and the current

income was $203,135.09. This latter amount is made up of the settlements made during the year of paymasters' accounts (deductions, fines, forfeitures, etc.), interest on the permanent fund, receipts from miscellaneous sources, and effects of deceased inmates, the latter subject to demand of legal heirs.

The treasurer's statement of funds received from the pensions of inmates shows on hand last report $48,799.33; received during the year, $98,251.98; paid to pensioners and legal heirs, $97,608.16, leaving on hand in the treasury $49,443.15.

The act of Congress approved January 16, 1891, requiring the treasurer of the Home to keep current funds on deposit in the United States Treasury has been strictly complied with.

All supplies for the Home that could be purchased under contract were so purchased.

The treasurer's statement of accounts with the farm, the dairy, and the garden show that the value of the products of the farm exceeded the expenses by $1,662.04, with estimated products not yet gathered valued at $1,821.40. The yield of the dairy was $2,884.83 more than the expense of maintaining it, while the garden, with which is included the expense of the ornamentation of the grounds, cost $402.80 more than the value of the products credited thereto.

No new buildings have been constructed during the year, and only such repairs and alterations have been made as were found to be necessary.

The extension and improvement of First street north to Michigan avenue to the southern boundary of the Home grounds, making a direct and convenient driveway from that part of the city, which is made a south entrance to the Home very desirable. A temporary gateway has therefore been made at that point.

The need of increased water supply has become very urgent, as the efforts made during the past eighteen months to obtain water by boring have proved unsuccessful. Orders were therefore given recently to discontinue it, as other means will have to be adopted to obtain for the Home the much-needed water supply.

The five buildings used as quarters for the inmates of the Home will soon be inadequate to accommodate the increasing number seeking and entitled to admission; and the question of the erection of an additional building is one that will have to receive due consideration. But as the cost of constructing a building in harmony with the others will be quite large, and as it is highly desirable not to diminish the permanent fund, which in its interest-bearing power provides about three-eighths of the income of the Home, the Board decided to defer action for the present in the matter, and has adopted other means to provide additional room. It has therefore ordered, as a first measure, that such of the seventy-six retired soldiers, inmates, as have violated the rules of the Home and shown the least appreciation of the benefits extended to them be discharged, in order to provide room for men without means of support. In most cases the pay of retired soldiers who have no dependents is sufficient to place them beyond the need of seeking the benefits of the Home, especially as the greatest number of this class, now inmates, are free from disabilities and quite able to add to their income by some light labor.

The provision which has been inserted in each of the last four legislative, executive and judicial appropriation acts limiting the settlement of old accounts by the Treasury Department to those originating since March 3, 1881, withholds funds from the Home which have accrued

to it under the act of Congress now embodied in section 4818 of the Revised Statutes. The withholding of these sums is greatly to be regretted, as it stops the laudable desire of the Commissioners to accumulate a fund the interest of which, with the other current resources, would provide a yearly income sufficient for the proper maintenance of the Home in the future, and enable the Commissioners to extend relief to a greater number of worthy old soldiers, whose needs appeal strongly to favor, than is now possible. It is estimated by the Second Auditor of the Treasury that the sum withheld amounts to $700,000, which, however, in the opinion of the Board, is too low an estimate. Not a dollar of this money, if placed to the credit of the Home, would be taken out of the Treasury of the United States, the simple interest on the amount being all that is required.

Regular monthly meetings have been held by the Board for the transaction of business pertaining to the Home and monthly inspections have been made as required by law.

The following changes occurred during the year in the Board and among the officers of the Home:

Brig. Gen. O. B. Willcox, U. S. Army (retired), relieved at his own request as governor of the Home July 9, 1892, by Brig. Gen. J. C. Kelton, U. S. Army (retired), who was appointed his successor July 7, 1892.

The appointment of Brig. Gen. Robert Williams as Adjutant-General of the Army, July 5, 1892, a member of the Board.

The library contains nearly 6,000 volumes, and 7 daily and 13 weekly papers, and 18 monthly magazines are provided, affording instructive pastime to those who desire to avail themselves of the privileges of the library and reading room.

The sanitary condition of the Home has been excellent throughout the year.

Good discipline has been maintained at the Home and the inmates have been provided with wholesome food, well prepared, comfortable clothing, clean beds in spacious quarters, excellent care when sick, with skilled medical attendance in a commodious hospital, a good library, a billiard room, etc., with every freedom of action in the buildings and in the beautiful grounds consistent with good order and discipline.

As this report, which is required to be published for distribution to the Army, covers all the facts necessary to a full understanding of the condition and management of the Home; the reports of the governor, the attending surgeon, and the treasurer, together with statements *made in detail* of the receipts and expenditures, of the permanent fund, the farm, garden, and dairy, and lists of names of men admitted to, and discharged from, the Home, are filed in the office of the Board of Commissioners for reference if necessary.

Very respectfully,

J. M. SCHOFIELD,
Major-General, Commanding the Army,
President Board of Commissioners.

The SECRETARY OF WAR.

WEST POINT MILITARY ACADEMY.

BOARD OF VISITORS.

JUNE, 1892.

APPOINTED BY THE PRESIDENT OF THE UNITED STATES.

Gen. LUCIUS FAIRCHILD.....WISCONSIN.
Hon. A. J. CASSATT.....PENNSYLVANIA.
Gen. FELIX AGNUS *(President)*.....MARYLAND.
Gen. SAMUEL DALTON.....MASSACHUSETTS.
Hon. A. G. HOVEY.....OREGON.
Capt. ALFRED M. OGLE *(Secretary)*.....INDIANA.
Col. JOHN W. LINDSEY *(Vice-President)*.....GEORGIA.

APPOINTED BY THE PRESIDENT OF THE SENATE.

Hon. J. DONALD CAMERON.....PENNSYLVANIA.
Hon. MATTHEW C. BUTLER.....SOUTH CAROLINA.

APPOINTED BY THE SPEAKER OF THE HOUSE OF REPRESENTATIVES.

Hon. JOSEPH H. OUTHWAITE.....OHIO.
Hon. JACOB A. GEISSENHAINER.....NEW JERSEY.
Hon. JOHN A. T. HULL.....IOWA.

REPORT

OF THE

BOARD OF VISITORS

TO THE

UNITED STATES MILITARY ACADEMY

FOR THE YEAR 1892.

To the Secretary of War, the President of the Senate, and the Speaker of the House of Representatives:

The Board of Visitors appointed to attend the annual examination of the United States Military Academy for the year 1892 assembled at West Point on the 1st day of June. The authority for appointing this Board, the purpose for which it is appointed, and its duties are contained in the following sections of the Revised Statutes of the United States:

SEC. 1327. There shall be appointed every year, in the following manner, a Board of Visitors to attend the annual examination of the Academy. Seven persons shall be appointed by the President, and two Senators and three members of the House of Representatives shall be designated as visitors by the Vice-President or the President *pro tempore* of the Senate and the Speaker of the House of Representatives, respectively, at the session of Congress next preceding such examination.

SEC. 1328. It shall be the duty of the Board of Visitors to inquire into the actual state of the discipline, instruction, police administration, fiscal affairs, and other concerns of the Academy. The visitors appointed by the President shall report thereon to the Secretary of War, for the information of Congress, at the commencement of the session next succeeding such examination, and the Senators and Representatives designated as visitors shall report to Congress, within twenty days after the meeting of the session next succeeding the time of their appointment, their action as such visitors, with their views and recommendations concerning the Academy.

In accordance with these provisions the following-named gentlemen were appointed to constitute the Board of Visitors for the year 1892 and were requested to assemble at the Military Academy on the 1st day of June.

APPOINTED BY THE PRESIDENT OF THE UNITED STATES.

Gen. LUCIUS FAIRCHILD ..... Wisconsin
Hon. A. J. CASSATT ..... Pennsylvania
Gen. FELIX AGNUS ..... Maryland
Gen. SAMUEL DALTON ..... Massachusetts
Hon. A. G. HOVEY ..... Oregon
Capt. ALFRED M. OGLE ..... Indiana
Col. JOHN W. LINDSEY ..... Georgia

APPOINTED BY THE PRESIDENT OF THE SENATE.

Hon. J. DONALD CAMERON ..... Pennsylvania
Hon. MATTHEW C. BUTLER ..... South Carolina

APPOINTED BY THE SPEAKER OF THE HOUSE OF REPRESENTATIVES.

Hon. JOSEPH H. OUTHWAITE ..... Ohio
Hon. JACOB A. GEISSENHAINER ..... New Jersey
Hon. JOHN A. T. HULL ..... Iowa

ORGANIZATION OF THE BOARD.

The Board of Visitors was organized by the unanimous selection of Gen. Felix Agnus as president, Hon. John W. Lindsey as vice-president, and Capt. Alfred M. Ogle as secretary. Upon a call of the roll it was ascertained that all of the members were present except Hon. A. J. Cassatt. The secretary was directed to notify Col. John M. Wilson, Superintendent of the Military Academy, that the Board had been duly organized and was prepared to transact the business for which it was appointed. In accordance with this direction the secretary addressed the following letter to Col. Wilson:

ROOMS OF THE BOARD OF VISITORS,
West Point, N. Y., June 1, 1892.

SIR: I have the honor to inform you that the Board of Visitors to the United States Military Academy for the year 1892 assembled this day at the place appointed for that purpose and organized by the selection of Gen. Felix Agnus as president, Hon. John W. Lindsey as vice-president, and Capt. Alfred M. Ogle as secretary. I have also the honor to inform you, by direction of the Board, that any communication you may desire to make in reference to the affairs connected with the Military Academy will be cheerfully received and be given careful consideration.

Very respectfully, your obedient servant,

ALFRED M. OGLE,
Secretary.

Col. JOHN M. WILSON,
Superintendent United States Military Academy.

After a short recess the Board reassembled, when the president laid before the Board the following communication from Col. Wilson, Superintendent of the Academy:

HEADQUARTERS U. S. MILITARY ACADEMY,
West Point, N. Y., June 1, 1892.

SIR: I have the honor to acknowledge the receipt of your communication of this date notifying me of the organization of the Board of Visitors.

I shall be happy to afford the Board every facility for a thorough inspection of the

kings of all the departments of the Academy, administrative as well as those of ruction, and in general to do everything possible to assist the Board in its labors. programme of the examination has already been furnished each member. Notice l be given from day to day of such military exercises as are ordered for the Board Visitors.

irst Lieuts. Frank L. Dodds, Ninth Infantry; Joseph E. Kuhn, Corps of Eneers; Edwin B. Babbitt, Ordnance Department; and Daniel L. Tate, Third Cavr, have been detailed to attend upon the Board of Visitors during their stay at Academy.

also take occasion to say that I hope the Board will communicate with me freely, h personally and officially, upon any subject connected with the Military Acadr which may be of interest to its members in connection with their official visit to st Point.

n conclusion, permit me to say that I desire to call officially upon the Board of itors at the hotel at 4:20 o'clock p. m., to-day, with the members of the Academic ard and my military staff, for the purpose of paying our respects to the Board of itors and to conduct them to a review of the corps of cadets given in their honor. t the close of the review it will give me pleasure to receive the members of the ard, their families, and friends at my quarters to meet the officers and ladies of the st.

Very respectfully, your obedient servant,

JOHN M. WILSON,
Colonel of Engineers, Superintendent.

len. FELIX AGNUS,
President Board of Visitors, West Point, N. Y.

A copy of Orders No. 86 was laid before the Board. These announced at in honor of the arrival at the post of the Board of Visitors a salute seventeen guns would be fired at 4:25 o'clock under the direction of e commanding officer, U. S. Military Academy detachment of ordnce, and that the battalion of cadets would be reviewed by the Board Visitors at 4:30.

The president of the Board announced the committees as follows:

Appointments and examinations.—Messrs. Fairchild, Hovey, and Lindy.

Discipline and instruction.—Messrs. Cameron, Hull, and Geissenniner.

Armament and equipment.—Messrs. Butler, Dalton, and Fairchild.

Buildings, grounds, and lights.—Messrs. Lindsey, Hull, and Ogle.

Supplies and expenditures for cadets.—Messrs. Geissenhainer, Cassatt, d Agnus.

Fiscal affairs.—Messrs. Outhwaite, Cassatt, and Hovey.

It was ordered that the regular meetings of the Board should be ld daily at 2:30 o'clock.

The Superintendent, accompanied by his military staff and the memrs of the Academic Board, called upon the Board of Visitors at their oms, and after an interchange of courtesies escorted them to the rade ground to witness the review arranged in their honor.

Gen. Fairchild and Hon. A. G. Hovey were called away on June 2, d at a subsequent meeting Mr. Cassatt reported and assumed his ties as a member of the Board.

The committees named proceeded promptly to inquire into the matters assigned to them, and pursued their inquiries with vigor and constancy. Their conclusions and recommendations will be found in their several reports made to and approved by the Board.

PLAN OF PROCEDURE BY THE BOARD.

The Board began its investigations with the purpose of gaining thorough and impartial information and of completing its labors with the close of the graduation exercises. By industrious committee work and regular sessions for the discussion of important questions it was enabled to carry out this plan. The conclusions in this report and in the several reports of the committees, therefore, are based directly upon the observations and inquiries of all the members of the Board and embody the prompt results of their work.

From the Superintendent and his assistants the Board received the fullest facilities and the freest opportunities for investigating every department of the Academy. There was not the slightest circumstance or suggestion on the part of the officers to influence the judgment of the Board or its members, but there was a gratifying and cheerful willingness to do everything possible to aid its work and to further the personal investigations of its members. Every officer when called upon for information responded promptly. The Board was thus enabled to gather a comprehensive and detailed knowledge of the Academy, its work, and its needs, and the purpose has been, in the reports which follow, to give the information and conclusions as briefly as clearness and accuracy will allow.

The facts gathered by the committees were fully discussed in the regular meetings of the Board. These meetings were well attended and an active interest in the discussions was shown by all the members. The Superintendent and other officers of the Academy were present by request of the Board on several occasions, and from them much valuable information was obtained.

At the request of the Superintendent the Board designated one of its members to deliver an address to the graduating class on the day of graduation. For this honor the Hon. Joseph H. Outhwaite, of Ohio, was chosen.

The Secretary was authorized, in the name of the Board, to call upon the War Department, the Superintendent of the Academy, and other parties from whom information deemed necessary in the preparation of the general report might be obtained.

After the presentation and the adoption of the various reports, the Board finally adjourned on the morning of June 11.

APPOINTMENTS AND EXAMINATIONS.

Committee on appointments and examinations.—Messrs. LUCIUS FAIRCHILD, A. G. HOVEY, and J. W. LINDSEY.

Your committee have devoted much of their time to the question of the corps of cadets, and in this report they may repeat much that has been covered by the reports of other committees made to previous boards. If they should do this, it is because the importance of the subject demands this repetition in the consideration given to it.

We find after a careful investigation that the capacity of the Academy is able to accommodate about 500 cadets; that is a corps of 500 cadets can be quartered in the buildings if they are devoted to this purpose alone, when the present structure now under construction is completed; but to increase the corps to this number it will require a further detail of officers as instructors and additional expense for building quarters for said officers.

We also find that if the law on the subject of making appointments to fill the corps was complied with its maximum number would be 347. After this year the apportionment act based on the new census will go into operation, and will make the maximum number of the corps 371 for 1893. There are now in the corps receiving instruction 252 men, which estimate includes two foreigners, who are taught under our law at their own expense, leaving only 250 members filling places in the corps under our apportionment laws. The graduating class of 1892 is composed of 62 members, who will soon leave the corps. When they go away there will remain 188 members. To these are to be added the incoming class of 1892. This class from the best information we can get will be about as follows: Under the operation of the new rules for examining the applicants there were submitted to the Board at the March examination 205 names. Out of this number only 85 passed and received certificates of admission. There are 80 applications now pending for examination on June 13. It there is the same ratio of failures as in the March examination the class will receive an addition of 30 or 35 more, making an estimated class of 120 for 1892; this added to the 188 left over will make a corps on June 15 of 308, a shortage under the maximum fixed by existing laws of 40 members.

We find on investigation that a corps of 400 men can be maintained and instructed with no further expenses for buildings, nor the employ-

ment of other instructors. This being true there is a shortage in the corps of about 150 men; that is, the plant is ample to instruct 400 men instead of 250—the number of the present corps. In the opinion of your committee it would be a wise policy to keep the corps up to its full working capacity, or as near thereto as it possibly can be made without increasing the number of professors or making additional expenditures for officers' quarters. We believe that the principal object of the establishment of this institution with the high standard it has attained was to supply the annual casualties in and retirements from the official ranks of the Army; and to this end we think the proficiency and operation of the institution should be directed.

We find that the various departments in which the services of graduates from the Corps of Cadets are in demand require an addition annually of from 50 to 75 young men.

If there could be 100 young men graduated annually from this institution, which we think can and should be done without further cost or expense, it is manifest that all the claims of the Government upon the class could be supplied and that there would be left at least 25 per cent of the graduates to go into civil life as a reserve, subject to any call of the Government. We think this excess should be permitted, for we find this class of skilled men in great demand as developers of the vast resources of the different interests in the various sections of our country. While we think this excess of graduates should not be increased at any further cost to the Government at this time, we do believe that the capacity of the institution should be brought to its highest and greatest possible fruitage, that every department of the institution should be placed on the very highest plane of efficiency consistent with modern ideas and modern developments, that the very best results may be obtained, and to this end should be directed the aim of all men who are charged with the care, supervision, and protection of this institution. They should see that no legitimate means should be withheld from it that would seem necessary for the accomplishment of this great work.

The question, then, is how should the corps be brought to its highest working capacity, which we find to be 400, when the maximum number fixed by law for 1893 can only be 371?

The new rule for the examination of applicants that has been recently adopted, we think, in fact we know it to be, an improvement on the old plan. It should be continued with some changes. We think the rule could be made more effective in this: let the examining board meet at the various posts as now designated. Let the appointing power of applicants for examination to go before the examining board on March 1 of each year, select in the various Congressional districts three young men by competitive examination by forms sent out from the War Department to be designated, as their standing shows, as 1, 2, 3, etc. Let these three men go before the Board at the March meeting, all for examination. If number 1 fails, number 2 will have a chance

If number 2 fails, number 3 will have a chance. We think that out of three men one could be secured. We would suggest when failure occurs at the end of any annual examination that this failure be reported to the Congressman within ten days, and that he be requested to name and send his men before the examining board of the nearest post for examination within thirty days.

These are only the views and suggestions of your committee made for the purpose of calling attention to the fact that some of the vacancies now existing have been unfilled for sometime. This ought not to be allowed to exist. If a degree of promptness was manifested in filling these appointments when vacancies occur the corps could be kept at a much larger number.

We think that the law on the question of making up the Corps of Cadets should be changed so as to restore to the President of the United States the right to appoint at large ten young men annually with the usual number of alternates. These will be in addition to the representation now fixed by law. They will appear for examination for admission to the corps in the same manner, and at the same time the Congressional appointments are made and examined, all vacancies in these appointments to be filled in the same way. We recommend that this change be made in the law, which would then give the Academy an annual maximum of 401. The committee would further suggest in making these appointments, everything being equal, that preference be given to the sons of officers of the Army and Navy. We are informed that under the existing rules there is an average annual vacancy of 25 per cent of those entitled to admission. If this is correct, then it would be readily seen that to increase the number of appointments to the corps as suggested there can be no danger of our starting the corps beyond the capacity of the institution to instruct them.

Your committee do not want to appear partial in their estimate of the ability and standing of the cadets in the various classes, but they desire to call the attention of the Board to the thoroughness and proficiency developed in the examination of the first classmen in the various branches taught them. Their example we commend to the corps generally.

All of which your committee respectfully submit.

L. FAIRCHILD, *Chairman.*
A. G. HOVEY.
J. W. LINDSEY.

DISCIPLINE AND INSTRUCTION.

Committee on Discipline and Instruction.—Messrs. J. Donald Cameron, John A. T. Hull, J. A. Geissenhainer.

Your committee having investigated the subject assigned them are of the opinion that in the matter of discipline there is no room for criticism. In institutions of this character the discipline must necessarily be strict, and in the hands of some men might easily become exceedingly irksome to the student and do much harm in the formation of character. But we are fully convinced that under the present intelligent and efficient management the highest type of manhood should be and is developed in the Cadet Corps. The rules of the institution are enforced in a way to win ready obedience and prompt compliance on the part of the cadet in all instances. Of course, with the large number of cadets, full of the energy and daring of vigorous youth, rules will be broken. In all such cases of infractions of the rules punishment is swift and certain, but in every case investigated we found punishment so administered as to meet the approval of the cadets. They feel that the power of the Superintendent is exercised in an absolutely impartial manner, and that the punishment meted out comes from a man whose actions are influenced by an earnest desire for the good of the cadet. We regard it as of the highest importance for the good of the Academy to have reciprocal good will between the Superintendent and the Corps of Cadets. With the present Superintendent this obtains in so marked a degree that we believe the best interest of the institution would be subserved by extending the time a Superintendent can remain in charge. It is no reflection on other officers of the Army to say that it is rare to find a man so happily adapted to the work as the present Superintendent has proven himself to be. We can see no reason for a change every four years.

There has been much discussion as to the value of modern languages as taught here. The two years' course in French is certainly of great value, and all graduates from the Academy can, if they will, continue the study of the language in after life to very great advantage. It is argued by those opposed to continuing the course of instruction in this language that the graduate when entering into active army life soon forgets what he has learned of the French language. That is doubtless true in some measure, but the same argument would drive nearly all studies from our colleges. The graduates when actively engaged in the various avocations of life largely lose their familiarity with their

college course, but we hardly think it would be seriously contended that for this reason studies should be omitted from the course. In many cases the graduates of this Academy have become accomplished linguists from the start received here, and all retain enough knowledge to make the study of value.

The question of the value of the Spanish course is not so clearly established. If it were not for the fact that our sister Republic of Mexico is Spanish in blood and language we would unhesitatingly recommend that this language be dropped from the course. It is taught for only six months during the entire four years, and we can not believe such a short period is productive of much good. It seems to your committee that either more time should be given to this study or that it should cease to be taught.

We are of the opinion that the course of instruction in English could be enlarged with great profit, but we recognize the fact that students before entering the Academy must be fairly good English scholars. It is also to be inferred that the pride of every man worthy to be an officer of the Army will impel him to become familiar with English literature and history.

On the 31st of August next Prof. George L. Andrews will retire. There should be careful attention to the selection of his successor. Prof. Andrews has rendered most efficient and distinguished services as professor of modern languages during the past twenty-one years, and his successor should be a man of highest character and attainments. We believe the work done by Prof. Andrews to have been of the most superior order, and that it deserves special mention by this committee. He will carry with him into retirement the grateful love of officers in every branch of the Army and the profound respect of all officers of the Government.

This committee, in the short time given for investigation, are not competent to express an opinion as to the man to be chosen, but from the information we have been able to gather we should give the preference to a graduate of the institution, and, all other things being equal, we would suggest that an officer of the Army should be given preference.

If there is to be any material change in the course of study at this Academy we would suggest the appointment of a special board to carefully examine and revise the full course.

We are satisfied that the present course taxes the student to as great an extent as should be done, and we certainly would not enlarge the course.

We heartily recommend the results achieved by the Academy both in discipline and instruction.

J. DONALD CAMERON,
JOHN A. T. HULL,
J. A. GEISSENHAINER,
Committee.

ARMAMENT AND EQUIPMENT.

Committee on Armament and Equipment.—Messrs. M. C. BUTLER, SAMUEL DALTON, and LUCIUS FAIRCHILD.

The Committee on Armament and Equipment respectfully report that they have carefully investigated the subjects assigned to them. Their labors have been facilitated by the assistance cheerfully given to them by the Superintendent of the Academy and the officers assigned by him to the Board.

The equipment of the Cadet Corps and regular Army troops on duty at the Academy is in good condition.

The cavalry arm is under careful and efficient instructors, but your committee are of the opinion that it can not be made fully efficient until a material change is effected in the horses in use. The system of using the same horses for the artillery and the cavalry, compelling one set to do duty under the saddle as well as in harness, is a serious drawback to the instruction in both branches. While the cadet can be taught the first principles of riding with any of the old horses now in service, complete equitation, proper bitting, knowledge of the use of legs and reins which are most necessary to an accomplished horseman necessitate the use of horses of more than ordinary merit. By this is meant the younger animals without acquired vice and of sufficient breeding to receive training readily. Your committee respectfully recommend that all horses now in use in the cavalry service here be inspected by a competent officer and those found unfit for entire service be taken away and that a sufficient number of those found fit for the service be assigned to the light battery and used for that purpose only.

The committee recommend also that fifty additional horses be purchased especially for use in the cavalry; that number with those already reserved for cavalry purposes being sufficient to equip fully and properly one class. While under the law these horses can be purchased only through the Quartermaster-General's Department, the instructor of cavalry at this post should be authorized to inspect every animal and decide upon its fitness for this special service before purchase.

If the foregoing recommendations are not adopted, the present difficulties may be overcome by the stationing at this post of a light battery, whose horses could be used by the Cadet Corps for artillery drill.

The heavy ordnance at this post, with few exceptions, is obsolete and dangerous. The siege battery can not be used for fear that the guns may

burst. Since 1876 three guns of this battery have burst, and guns, also obsolete, have been substituted. These obsolete guns have been reported by former boards and your committee do not deem it necessary to dwell upon the urgency of improvement in this particular.

Preëminent as the West Point Academy stands among the training schools of the world, its instruction being sought by the youth of other nations, short-sighted economy should not prevail in the equipment of the school with modern armament. This post should be among the first to be supplied with new ordnance as soon as purchased or manufactured by the Government.

Your committee suggest that the following ordnance is required and should be furnished:

1. *Seacoast battery.*—Two 10-inch guns, one 12-inch mortar, four 8-inch guns. These to be mounted on proper carriages. The 8 and 10 inch guns to be steel and of high pressure; the mortars to be either steel or cast iron, steel hooped. All of these, your committee believe, should be breech-loading.

2. *Siege battery.*—Four 5-inch steel breech-loading siege guns, two 7-inch steel breech-loading siege howitzers, six siege mortars, rifled. These to be mounted on suitable carriages.

3. *Field batteries.*—Twelve new, light, field steel carriages for the use of two 3.20-inch batteries now here, with limbers and caissons complete. One battery of these guns is mounted on steel carriages, but they are heavy, and the Ordnance Department is replacing these with lighter steel carriages. The other battery is mounted upon old wooden 3-inch carriages for drill purposes.

4. *Rapid-fire guns and machine guns.*—One Maxim rapid-fire gun, 1 Nordenfelt rapid-fire gun, 1 Driggs-Shroeder rapid-fire gun, 1 Canet rapid-fire gun, 1 Krupp rapid-fire gun. Your committee would add, in respect to the guns named, that they represent the most successful rapid-fire guns, and the cadets should have the benefit of seeing them and of becoming thoroughly familiar with them.

One Nordenfelt machine gun.

5. *Models.*—In view of the fact that most of the mechanisms studied by cadets belong to guns of large size, and that it is impossible to have ready access to them at the time they are being studied and recited upon, it is deemed of great importance that accurate models of all our own breech mechanisms and of those abroad, which are studied in the course in advance, be supplied for the instruction of cadets. It is evident that by actually seeing and by handling a thing a greater amount of knowledge can be acquired than pages of description would give. Experience shows that to be the case here.

In addition to this, the new museum in the Academic building should contain all these models. Your committee, therefore, recommend that these models be supplied. It believes that for $10,000 all the needed models could be procured and if they could not be supplied at once smaller amounts could be used.

The band at this post is well uniformed and well equipped and the instruments furnished are of good quality. Your committee would recommend, however, that the band be increased to 40 members and a leader. The classification of musicians as to pay does not work to the best advantage. Better musicians could be obtained by paying all as one class. The committee recommend that the rate now paid to first-class bandsmen be paid to all bandsmen. At present the leader is in reality a citizen without military authority. Your committee recommend that he be given the relative pay, rank, and allowance of a second lieutenant of infantry. This would give him military authority and a standing at the post which he should have.

In submitting this report your committee urge that the recommendations contained herein be considered and acted upon by those having the authority.

M. C. BUTLER,
Chairman Subcommittee.
SAMUEL DALTON.
LUCIUS FAIRCHILD.

BUILDINGS AND GROUNDS.

Committee on Buildings and Grounds.—Messrs. J. A. T. HULL, J. W. LINDSEY, and A. M. OGLE.

Your Committee on Buildings, Grounds, and Lights have the honor to report as follows:

Your committee first made a general examination of all the buildings and grounds in company with the other members of the Board.

We can not praise too highly the care that is taken of all parts of the reservation in actual use and of the buildings thereon and of the cleanliness that is enforced at every point.

A letter was sent to the Superintendent asking for any suggestions he might wish to make. To this letter a prompt reply was received, and, upon invitation, the Superintendent came before the Board and discussed fully the necessities of the Academy.

There are now in course of erection new gymnasium and Academic buildings. These will both be completed within the next year, and will then furnish ample and satisfactory accommodations of their class for many years to come.

We find that the choice portion of the cadet barracks has, for many years, been occupied as quarters by the unmarried officers on duty at this place. This was rendered necessary from the fact that no provision in the way of quarters has ever been made for this class of officers. Your committee would strongly recommend the erection of a set of flats, modern in style and finish, which would not only furnish complete accommodations for these officers, but which would also be large enough to provide rooms for the Board of Visitors and their families, and also room for an officers' mess.

We also find that a number of the married officers are compelled to live two families in a house barely sufficient for one. This should be remedied by the erection of sufficient additional sets of single quarters to provide each married officer with a house to himself.

We find that the Government has provided ample barracks for all of the enlisted men on duty at this post. It has also provided, already, a number of sets of quarters for such enlisted men as may have married while here. This is providing two sets of quarters for these married men, *i. e.*, the barracks, where they can live with their unmarried comrades, and houses where they can live with their families. We think that providing two places of living for these men is an expense the Government should not have to bear, and we would recommend

that in the future a preference should be given unmarried men for re-enlistment.

The completion of the new Academic building and gymnasium will render imperative considerable addition to the steam-heating plant, which is already too small for the work it is called upon to do. Many years ago this was located in the area of the cadet barrack, a place that was never suitable for it, as the return drainage of condensed steam is bad. It also takes up room that is needed for formation and drilling of the Corps of Cadets in the winter and can not be enlarged without further encroachment upon this space. In addition all fuel has to be hauled a long distance from the docks and ashes have to be again carted away. There is also a small steam plant in the building occupied by the Superintendent and his assistant. Your committee would recommend the erection of a plant large enough to heat all buildings as well as furnish such power as may be required on the railroad near either the north or south dock as may be found best, where coal can be delivered direct from the car or boat to the boilers, and where one set of engineers and firemen can attend to all of the heating and power required on the post. We are convinced that the saving in labor alone will very soon pay for the improvement.

The philosophical department has long occupied a portion of the library building, thereby depriving it of needed room. This department will be removed to the Academic building upon its completion. We would recommend sufficient appropriation to remove all of the old class-room partitions and bring that portion of the building into harmony with that now occupied by the library.

Last year's drought showed that the present water supply was inadequate to the present need of the Academy. In addition litigation is threatened in regard to a part of it. We would recommend the construction of a new reservoir near Fort Putnam. The watershed for this will be entirely on lands owned by the United States, and an ample supply for all time to come can be secured at a moderate cost.

The present system of sewerage and plumbing throughout the different buildings and the grounds should be continued to completion as well as the further extension of water mains where needed.

Most of the roads are in good condition, but special appropriations should be made for placing in perfect condition the roads on the new grounds purchased from the Kinsley estate.

In conclusion your committee desires to call especial attention to the lighting of the cadet barracks. The fact that upon entering the Academy a careful examination shows that all who are admitted have good eyesight and that of the present graduating class more than 50 per cent have had to resort to glasses, is sufficient to convince the most skeptical that a radical improvement is necessary. A careful examination shows two reasons for this trouble, viz, a single, badly located, old-style gas-burner is all that is furnished each room occupied by two

cadets, and to make this worse the present gas-works are taxed so far beyond their capacity that the light from this burner is on a constant flicker. The only wonder is that the eyes of the graduates are as good as they are. We would further call your attention to the fact that after graduation these young men are again examined by a board of Army surgeons, whose duty it is to reject and recommend for dismissal all who have defective eyesight. As the cadets have no control whatever over these matters, the Government is placed in the position of treating them unfairly. There will also be quite a loss to the Government in having educated them without getting any direct return from the same. We can not recommend too strongly to the present Congress that it make an appropriation that will become at once available for the purpose of providing something better in the way of light before the beginning of another academic year. We think the nature of this light, whether gas or electric, should be left to the discretion of the authorities here who have already given the subject much thought and who will certainly do what is best to get immediate relief.

J. A. T. HULL.
J. W. LINDSEY.
A. M. OGLE.

In view of the fact that the lights were so bad this resolution was at once sent to Congress through Hon. John A. T. Hull, of Iowa:

Resolved, That the Board of Visitors at the Military Academy are deeply impressed with the necessity of improving the lights for the cadets' barracks, and they recommend that Congress immediately appropriate $50,000 for improving the lighting of said barracks.

SUPPLIES AND EXPENDITURES FOR CADETS.

Committee on Supplies and Expenditures for Cadets.—J. A. GEISSENHAINER, A. J. CASSATT, and FELIX AGNUS.

The Committee on Supplies and Expenditures respectfully submit the following report:

Your committee were afforded every opportunity to examine into the details in connection with the duties assigned to them. They found that the standard of excellence reported by the Board of Visitors for the year 1891 has not only been maintained, but also improved, by the efficient officer in charge, wherever the same was found possible.

A careful examination of the stores and supplies was made and the same were found to be perfect in quality, and in the system of their storage all that could be desired. The store-room adjacent to the dining hall is admirably arranged for the care, preservation, and handling of the staple articles in immediate and constant use.

The mess hall was frequently visited, and your committee, in order to test the quality of the food and its preparation, dined separately with the cadets at their tables and were much pleased.

In regard to the mess hall, your committee can not recommend too strongly the substitution of a marble, brick, or tile floor for the one now in use. The present wood floor having been in constant wear for years is much worn by the large Corps of Cadets, and, subjected to the absorption of soap, not only can not be kept in proper condition, but is at times positively unpleasant. This condition your committee believes to be neither appetizing nor healthy.

The kitchen, bakery, and refrigerator are kept in a cleanly and wholesome manner, and will compare most favorably with similar establishments in public and private houses.

The bread furnished the cadets is very excellent in quality. Four different brands of flour are used in all bakings, one constituting sweetness, another strength, another body, and another color. From such a combination the most satisfactory results are obtained.

A menu is determined upon by the commissary and chef daily.

There will be found appended hereto a menu selected at random from the month of January, as well as one selected in the same manner from the month of June.

For Thursday, January 7, 1892.

DINNER.

SOUP.

Celery.

RELISHES.

Pickled beets, Various sauces.

MEAT.

Roast beef.

VEGETABLES.

Stewed white beans, Baked mashed potatoes.

DESSERT.

Tapioca custard.

SUPPER.

Cold roast beef and ham, Saratoga chips,
Apple sauce, German muffins,
Milk, Butter, Coffee, Tea,
Bread, Sirup, etc.

BREAKFAST (the following morning).

Oatmeal porridge, Fresh haddock,
French fried potatoes, Hot French rolls,
Cocoa, Apples, Milk, Coffee,
Bread, Butter. Sirup, etc.

For Tuesday, June 7, 1892.

DINNER.

SOUP.

Windsor a L'Allemande.

RELISHES.

Cold slaw, Assorted sauces.

MEAT.

Roast beef.

VEGETABLES.

Spinach. Mashed potatoes, baked.

DESSERT.

Bananas.

SUPPER.

Cold roast beef and mutton, English roast potatoes,
Apple butter, Hot rusks,
Milk, Butter, Coffee,
Tea, Bread, Sirup, etc.

BREAKFAST (the following morning).

Cornmeal porridge, Broiled porter-house steak,
French fried potatoes, Hot French rolls,
Cocoa, Milk, Coffee,
Bread, Butter, Sirup, etc.

While your committee believe that the expenditures of the cadets are most economically arranged, they are nevertheless of the opinion that there are several items which should not be charged to the account of the cadets; such, for example, as the policing of their quarters or other servile work. In order that the term "policing" may be properly understood, your committee would say that the same is in the nature of work generally done by house servants, and is not to be regarded as the duty usually performed by a policeman or a watchman. Again, while the cadet is not charged for gas, he is taxed a sum sufficient for the conversion of coal into gas. Furthermore, the cadet pays for his hospital charges. These charges, we believe, should be borne by the Government. Among other charges which enter indirectly against the cadet is the pay of the storekeepers or clerks. Your committee would suggest that clerks for this purpose be furnished by the Government. If the above items could be provided for without reducing so materially the pay of the cadet, a sum sufficient to equip him as officer, upon his graduation, could be saved therefrom.

For the equipment of the graduating cadet a monthly sum is set apart which amounts to about $192 at the end of the course. From this sum all expenditures relating to the purchase of his first outfit as an officer must be made, and unless the cadet has means outside of this $192, he must go in debt for such portion of his equipment as this sum will not supply, since he must have—

Overcoat	$60	Shoulder knots	$35
Uniform dress suit	50	Dress belt	17
Blouse	30	Black belt	5
Trousers	15	Saber	15
Waistcoat	6	Shoulder straps	6
Helmet and cord	28		
Forage caps	5	Aggregating	260

Besides these the young officer must have some room furniture, professional books, etc., and if mounted he must buy a horse, saddle, bridle, etc.

In conclusion, your committee beg to say that they were much pleased by and gratified with the management of those departments of the Academy which came within the province of their observation and inspection, and they are of the opinion that there are but slight imperfections to be removed, and these are owing, in a great measure, to the difficulty met with in maintaining the excellence of the institution and of improving it upon the sum of money provided. They think that the imperfections noted come from the causes stated and from the necessity of saddling upon the cadet some expenses which the Government, in their opinion, should bear.

J. A. GEISSENHAINER,
A. J. CASSATT,
FELIX AGNUS,
Committee.

FISCAL AFFAIRS OF THE ACADEMY.

Committee on Fiscal Affairs.—Messrs. JOSEPH H. OUTHWAITE, A. J. CASSATT, and A. G. HOVEY.

The Committee on Fiscal Affairs, after examining the subjects submitted to them, present the following report:

Your committee first visited the office of Capt. W. F. Spurgin, who has charge of the records and books of account which relate to the pay, subsistence, clothing, and general expenses of the Corps of Cadets. In this office is deposited the money which each cadet brings with him upon entering the Academy, $100 being then required; and here is placed to his credit the pay he receives from the Government, all constituting the amount to his credit. The entire sum appropriated by Congress for the pay of the corps is placed to the credit of Capt. Spurgin, as treasurer of the United States Military Academy, with the Assistant Treasurer of the United States at the city of New York. Every two months a muster roll of each company of cadets is made out and forwarded to the proper paymaster, the pay of each cadet for that period amounting to $90. Out of each payment is withheld $8 for the cadet's equipment fund, to be by him expended upon his graduation in purchasing his equipment as an officer. If he is permitted to withdraw before examination the money to his credit in this fund is paid to him unless necessary to pay indebtedness due upon other accounts. The remainder of the bimonthly payment, $82, is available for the cadet's current expenses. The money is not placed in his hands. He is furnished with a book in which are entered his credits and all charges against him, such as subsistence, policing barracks, lights, hospital dues, and laundry, as well as every item which he may purchase from the supplying store, such as text-books, stationery, and all necessary clothing. The system is a good one upon safe principles. The cadet has before him an incentive to cultivate habits of care and economy; and some of them, profiting by the lesson, save a small portion of their salary.

The committee append statements furnished by Capt. Spurgin, upon request, pertaining to the matters under his charge, which have been investigated. Your committee also spent some time in the office of Capt. Wm. H. Miller, of the quartermaster's department, and examined his books and papers so far as they relate to the appropriations for the support of the Military Academy and the disbursements thereof. As we have been furnished with a statement showing fully and clearly the condition of these affairs as we found them, we submit the same as part of our report.

Your committee, in closing their report, would say that in their opinion the conduct of the fiscal affairs of the Academy and the business system shown therein deserve the approval of the Board of Visitors.

Respectfully submitted.

JOS. H. OUTHWAITE.
A. J. CASSATT.
A. G. HOVEY.

HEADQUARTERS MILITARY ACADEMY, QUARTERMASTER'S OFFICE,
West Point, N. Y., June 6, 1892.

SIR: In accordance with your request, I have the honor to inclose herewith, for the information of the Board of Visitors, an abstract showing the amounts appropriated, disbursed, and remaining unexpended under the several heads of appropriations for the support of the Military Academy during the fiscal year 1891-'92.

The funds shown on the abstract as received have been supplied by request of the Hon. Secretary of War, upon requisition of the Superintendent of the Military Academy forwarded at such times as the necessities of the service demanded.

The amount reported as disbursed is supported by vouchers which are forwarded monthly to the War Department for the approval of the Secretary of War, and then transmitted to the Treasury Department for audit.

The amount reported as unexpended is deposited to my official credit, as disbursing officer, in the Subtreasury of the United States in New York City. At the end of the fiscal year such funds as are not needed to cancel outstanding indebtedness will be transferred to the Treasurer of the United States.

In addition to the funds referred to in abstract above referred to, I inclose an abstract of the fund known as the "gas fund." Congress annually appropriates $3,500 for gas, coal, oil, candles, lanterns, matches, chimneys, and wicking for lighting the Academy, chapel, library, cadet barracks, mess hall, shops, hospital, offices, stables and riding hall, sidewalks, camp, and wharves.

The gas consumed in these places costs more than the amount appropriated. A tax therefore becomes necessary. Gas consumed at all places not enumerated in the act is sold at actual cost of manufacture with a small increase for contingencies, which includes a portion of the deficiency above named and also provides for contingent repairs which experience has shown to be necessary from time to time. The remainder of the deficiency is charged to cadets. They pay for gas at the rate of 35 cents per month for the time they are actually present.

Attention is invited to the amounts paid by the several classes of persons consuming gas.

I also inclose an abstract of the fund known as the "special contingent fund, U. S. M. A.," which is derived from the rent of certain public structures at this post. Congress authorizes its expenditure under the supervision of the Superintendent of the Academy, the same to be accounted for annually, accompanied by proper vouchers, to the Secretary of War.

Very respectfully, your obedient servant,

W. H. MILLER,
Captain and Assistant Quartermaster, U. S. A.,
Disbursing Officer, U. S. M. A.

Hon. JOSEPH OUTHWAITE,
Chairman Subcommittee of the Board of Visitors
on the Fiscal Affairs of the U. S. Military Academy,
West Point, N. Y.

Abstract of appropriations made for the support of the U. S. Military Academy, received and disbursed by Capt. W. H. Miller, assistant quartermaster, U. S. Army, disbursing officer U. S. Military Academy, during the period commencing July 1, 1891, and ending June 6, 1892.

Regular appropriations.	Current and ordinary expenses.	Miscellaneous items and incidental expenses.	Buildings and grounds.
Fiscal year, 1891.			
On hand July 1, 1891	$7,788.71	$4,268.82	$6,395.54
Received since			63,326.00
Total	7,788.71	4,268.82	69,721.54
Expended	4,122.29	2,382.56	60,996.32
Unexpended balance on hand	3,666.42	1,886.26	8,725.22
Fiscal year, 1892.			
Received since July 1, 1891	54,600.00	17,100.00	83,500.00
Expended	50,212.47	15,058.06	82,788.98
Unexpended balance on hand	4,387.53	2,041.94	711.02

Special appropriations.*	New gymnasium.	New academic building.
On hand July 1, 1891	$23,034.11	$4,066.63
Received since	46,500.00	71,479.81
Total	69,534.11	75,546.44
Expended	29,540.86	38,358.73
Unexpended balance on hand	39,993.25	37,187.71

* Acts approved February 12, 1889.

I certify that the above abstract is correct, and that the expenditures stated have been made by me on vouchers approved by the Superintendent of the U. S. Military Academy.

W. H. MILLER,
Captain and Assistant Quartermaster, U. S. A.,
Disbursing Officer, U. S. M. A.

WEST POINT, N. Y., *June 6, 1892.*

Abstract of receipts and expenditures pertaining to the U. S. Military Academy gas fund between July 1, 1891, and June 6, 1892.

Receipts:	
Sales of coke, coal dust, etc	$581.03
Sales of coal tar	485.79
Sales of gas to officers	1,824.06
Sales of gas to civilians	712.04
Sales of gas to public buildings	453.33
Sales of gas to cadets, in barracks	855.20
Sales of gas fixtures to cadets	229.41
Total receipts	5,140.86
On hand July 1, 1891	577.33
Total	5,718.19
Expended July 1, 1891, to June 6, 1892	5,375.66
Unexpended balance on hand June 6, 1892	342.53

I certify that the above abstract is correct, and that the expenditures stated have been made by me on vouchers approved by the Superintendent of the U. S. Military Academy.

W. H. MILLER,
Captain and Assistant Quartermaster, U. S. A.,
Director of the Gas Works.

WEST POINT, N. Y., *June 6, 1892.*

Abstract of receipts and expenditures pertaining to the special contingent fund, U. S. Military Academy, between July 1, 1891, and June 6, 1892.

On hand July 1, 1891		$2,626.30
Receipts:		
By rent of West Point Hotel	$3,500.00	
By rent of Post-Office Cottage	112.50	
By rent of public stables	100.00	
By rent of confectionery store (retiring house)	550.00	
		4,262.50
By cash received from the U. S. Military Academy gas fund for the purpose of reimbursing the special contingent fund for expenses incurred in setting up 13 clay retorts in the U. S. Military Academy gas works		300.00
Total		7,188.80
Expended to include June 6, 1892		3,676.60
Balance on hand June 6, 1892		3,512.20

I certify that the above abstract is correct, and that the expenditures reported have all been made on vouchers approved by the Superintendent of the U. S. Military Academy.

W. H. MILLER,
Captain and Assistant Quartermaster, U. S. A.,
Treas. Special Contingent Fund, U. S. M. A.

HEADQUARTERS U. S. MILITARY ACADEMY,
OFFICE TREASURER, QUARTERMASTER, AND COMMISSARY OF CADETS,
West Point, N. Y., June 4, 1892.

SIR: I have the honor to submit the following, believing that the information given is that which you verbally requested when your committee visited my office this day.

The pay of a cadet is $45 per month, or $540 per year. At each regular muster, namely: February 28, April 30, June 30, August 31, October 31, and December 31, muster and pay rolls of each company of cadets are prepared by the tactical officer in charge of said companies in the same manner as such rolls are accomplished throughout the service.

The Corps of Cadets is mustered by the commandant of cadets on these rolls, and after he has signed them as mustering officer they are transmitted to this office, where they are examined and recorded and from whence they are transmitted direct to the chief paymaster's department of the East, New York City, who pays the rolls by depositing the amount due on them with the assistant treasurer of the United States at New York City to the credit of the Treasurer of the United States Military Academy, to be drawn upon by him, in his official capacity only.

Such payment constitutes the settlement between the cadets and the Government.

The treasurer of the Military Academy thus receives in trust the pay of all cadets, and in turn keeps an account with each individual cadet, crediting him every two months with his pay and charging him with all sums which he (the treasurer) has expended on his account during that period. Such a determination of the account of the cadet with the treasurer of the Academy is termed a settlement.

This account of each cadet with the treasurer of the Academy is itemically set forth in an account book, which book is habitually in the possession of the cadet, excepting when it is turned in for entry of charges for articles purchased during the settlement, and for balancing at the end thereof, and the cadet can see at any time the state of his account and the items of credit and debit which enter into it.

A ledger containing the consolidated accounts of all cadets, by classes, for each settlement is kept in the treasurer's office.

Out of the monthly pay of each cadet there is set aside, under no circumstance to be expended prior to his graduation, at which time it is paid him, the sum of $4 per month, which at his graduation amounts to $192, and which is intended as a fund out of which the cadet will purchase the necessary articles of his equipment as an officer. Forty-one dollars then remain as the monthly pay of each cadet for all his needs. Out of this sum he pays for his subsistence, clothing and repairs thereto, text-books, drawing instruments and drawing materials, washing, hair cutting, blackening his shoes, care of baths, proportional charge for the manufacture of gas, proportional share of the expense of the subsistence of cadets sick in hospital, including in this latter the extra pay of $10 per month to the member of the U. S. A. Hospital Corps who cooks for the sick cadets in hospital, and for every personal expenditure which he may consider necessary, on his written application that the same may be made when the same is approved by the Superintendent of the Academy.

Thus a cadet handles no portion of his pay whilst at the Academy, nor does the treasurer make any charge against the cadet excepting in pursuance of the authority of the Superintendent.

When a cadet goes on furlough after having been at the Academy two years, his accounts are settled approximately to the end of the settlement following the August muster of his furlough year, and although the treasurer of the Academy has not received the pay of the cadet for May, June, July, or August, he advances to him all that he will be out of debt at the end of August, less the sum of $22.50, which sum is held in reserve for necessary purchases of articles, which the cadet receives immediately upon his return from furlough, to the end that he may start in on the last half of his course at the Academy free from debt.

When a cadet severs his connection with the Academy, by graduation or otherwise, his account is settled to the proper legal date, and whatever amount is due him, including the $4 set monthly aside, is paid to him in person.

The statement of the treasurer U. S. Military Academy May 19, 1891, which was the last settlement of the books of this office prior to the inspection of the same by the Board of Visitors for 1891, was as follows:

	Amount.		Amount.
Assistant treasurer	$29,715.84	Cadet hospital	$8.38
Paymaster	90.00	Cadet laundry	5,541.23
Trust fund	20,000.00	Cadet quartermaster	1,898.64
Cash on hand	1,799.23	Cadet subsistence department	687.82
		Corps of Cadets	11,571.51
		Deposits	190.00
		Dialectic society	18.75
		Equipment fund	31,644.00
		Miscellaneous fund	4.02
		Miscellaneous items	6.32
		Policing barracks, etc	34.40
Total	51,605.07	Total	51,605.07

The amounts appearing in the left column are the assets, while those appearing in the right column are the liabilities, or funds and accounts, to which the assets belong.

The following statement of receipts and disbursements show the work of the treasurer's office between May 19, 1891, the date of the statement above given, and May, 16, 1892, the date of the last settlement of the books of this office:

Receipts.	Amount.	Disbursements.	Amount.
Assistant treasurer (amount of checks drawn)	$152, 280. 24	Assistant treasurer (deposited)	$153, 398. 77
Balances paid	18, 759. 10	Balances paid	18, 759. 10
Barber	540. 25	Barber	540. 25
Cadet cash	12, 238. 56	Cadet cash	12, 238. 56
Cadet hospital	1, 920. 23	Cadet hospital	1, 928. 61
Cadet laundry	8, 362. 37	Cadet laundry	9, 384. 21
Cadet quartermaster	69, 868. 86	Cadet quartermaster	65, 053. 44
Cadet subsistence department	53, 845. 95	Cadet subsistence department	52, 569. 00
Confectioner	316. 00	Confectioner	316. 00
Corps of Cadets	178, 527. 69	Corps of Cadets	177, 922. 16
Damages, ordnance	508. 23	Damages, ordnance	508. 23
Dancing	602. 00	Dancing	602. 00
Dentist	954. 00	Dentist	954. 00
Deposits	17, 208. 42	Deposits	17, 173. 42
Dialectic Society	450. 70	Dialectic Society	445. 10
Equipment fund	12, 304. 00	Equipment fund	15, 198. 00
Expressage	44. 20	Expressage	44. 20
Gas fund	1, 255. 90	Gas fund	1, 255. 90
Hops and German	1, 641. 17	Hops and German	1, 641. 17
Miscellaneous fund	41. 95	Miscellaneous fund	28. 00
Miscellaneous items	715. 40	Miscellaneous items	762. 51
Oaths	24. 00	Oaths	24. 00
Paymaster	149, 544. 27	Paymaster	149, 454. 27
Periodicals	92. 00	Periodicals	92. 00
Photographs	54. 00	Photographs	54. 00
Policing, barracks, etc	5, 832. 23	Policing barracks, etc	5, 898. 63
Total	687, 931, 72	Total	688, 234. 53

It will be observed that certain accounts appear and disappear in this second statement, viz, balance paid, barber, cadet cash, confectioner, damages, ordnance, dancing, dentist, expressage, gas fund, hops and German, oaths, periodicals, and photographs.

The following is the statement of the treasurer of the Academy at date of the last settlement, and inspection of his accounts May 16, 1892:

	Amount.		Amount.
Deposited with the assistant treasurer	$30, 834. 37	Cadet laundry	$4, 519. 30
Miscellaneous items	40. 79	Cadet quartermaster	6, 714. 06
Invested in bonds	20, 000. 00	Cadet subsistence department	1, 944. 77
Cash on hand in office safe	3, 496. 42	Corps of Cadets	12, 176. 04
		Deposits	225. 00
		Dialectic society	24. 35
		Equipment fund	28, 750. 00
		Miscellaneous fund	17. 97
Total	54, 371. 58	Total	54, 371. 58

A proper consideration of these three statements, of the receipts and disbursements in the second statement will explain clearly the difference between the first and last statement.

The equipment fund will be reduced on the graduation of the present first class $11,940.

Very respectfully, your obedient servant,

WM. F. SPURGIN,
Captain, Twenty-first Infantry. Treasurer U. S. Military Academy, Quartermaster and Commissary of Cadets.

Hon. JOSEPH H. OUTHWAITE, M. C.,
Chairman Committee of Fiscal Affairs, Board of Visitors, U. S. M. A., 1892, through the Superintendent U. S. Military Academy.

THE GRADUATION EXERCISES.

The graduation exercises were held on the morning of June 11. They consisted of prayer, three addresses, music by the United States Military Academy band, and benediction. Col. Wilson presided. Hon. Mr. Outhwaite, by direction of the Board, delivered the address to the graduating class. He was introduced by Col. Wilson, and he spoke as follows:

YOUNG SOLDIERS: It may now be said that you have reached the end of your first long campaign. You have fought already many battles, and in most of them you have won. Sometimes you have almost yielded to the dread despair of defeat. At other times the thrilling joy of success has spurred you on to further victories. Some of you have gained greater distinction than others, and have merited it. Promotion was open to all alike—the field was free from the beginning. Yet there be those among you who have not risen above the ranks. They need not be discouraged nor chagrined, unless they are conscious that they have wantonly wasted the advantages before them or failed to do their duty when it was within their power to have done it. Even the exercise of unflagging determination, persistent application, and dauntless courage does not always win promotion. But in the future will be many opportunities for those who have fallen below the average to retrieve the past, and possibly outstrip your more honored companions of to-day. Let me congratulate each one of you. So far you have served your country well. Now, a wider range of service and a greater responsibility is to be intrusted to you. You have been taught here the principles of the art of war and have been trained and disciplined in military exercises and in all the practical parts of your profession. From what we have observed in the past ten days we can say that there are those among you who could properly direct the movements of a battalion of infantry or drill a troop of cavalry, or manage a battery of artillery. We have seen a pontoon bridge long enough to span a wide arm of this river constructed by you under the command of one of your number. Your examinations have shown that you are well qualified to aid in supervising the construction of parts of our magnificent system of fortifications for seacoast defenses. Who should complain that your education makes science the handmaid of war? The effective application of knowledge in preparation for national aggression or defense may become the harbinger of universal peace.

Many of you, young soldiers, are now competent to plan and direct the construction of field fortifications and adjust the armament thereof, or to engineer and build the ways for advance and attack. Some could prepare the plans and make the maps for sieges or for battles, while others, doubtless, could guide the movements of forces advancing to engagements at night by the position of the stars in the heavens above them.

In addition to accomplishments strictly within the line of the military profession, you are also prepared to assist in the splendid engineering works being undertaken by the Government for the sake of commerce—to improve our great waterways of lake and river, and to connect them by splendid ship canals—as well as those for the enlargement or improvement of our many ocean harbors.

While you stand ready to take your places in any of the corps of the Army, you should from your studies and training of the past four years be somewhat equipped for the active service in the purely industrial pursuits of mining, architectural construction, and railroad building, and in the projecting and perfecting of systematic and economic measures for supplying water to our great cities and healthful drainage systems. Previous to our civil wars several high positions wherein abilities of this kind were required were filled by graduates of this Academy—their service not

then being desired by the Government. But when they were needed they returned promptly to that service. Yes, the history of your heroes is full of the splendid achievements of graduates of the Academy who at once forsook the paths of peaceful pursuits to tread again the field of war for the love of country and of glory.

Young gentlemen, you have acquired here something more than scientific attainments and professional skill, or you are not well fitted to command others. You will not make good officers if your intellectual nature alone has been highly cultivated. Within these four years your whole character has been forming. The influences around you should have elevated your moral nature too. The daily lessons of self-restraint, the constant incentives to eradicate from your hearts all mean and sordid emotions, the recurring performance of duties, not always agreeable, for duty's sake, the continuous practice of virtuous habits, and the generous emulations for class and company honors have all purified your minds and nobly expanded your manhood. Henceforth you are to be leaders among men and examples for those in the service below you. He who does his whole duty steadfastly honors his calling and helps to elevate mankind.

In this great Republic the members of this class are but as one to a million of people. In that branch of the public service which shall claim your direct labors each of you will have immediate professional contact with but a few hundred at most. Your professional competition will be confined to a still smaller number. While all rejoice with those who have taken and held the higher places here and wish them continued success, a warning that other campaigns are before them, and that the contest for supremacy is still on, may not be amiss. Promotions henceforth are still to be preceded by examinations; exercises and practical operations will have to be supplemented by study. Opportunity will thus be given for those who may regard their present lower position as the result of accidents or unfavorable circumstances for which they were not wholly responsible. They can have other trials of their strength and may surprise success. They need not be discouraged. They go hence with this class to-day. Having overcome one difficulty men often encounter the next with pleasure. Victory begets self-confidence, always the helpful auxiliary of native power. But he who first looks around for some one to help him, when confronted with opposition or difficulty, instead of summoning his own resources, and resolving to act upon them in the contest, is in a fair way always to suffer defeat. Said Charles James Fox, "Show me a young man who has not succeeded at first, and nevertheless has gone on and I will back that young man to do better than most of those who have succeeded at the first trial." May there not be some such instances in this class? The natural aspiration of every educated man is to achieve excellence in whatever he undertakes as his life work. In some this aspiration is strong and continuous, in others it is weak and intermitting. Their labors and the results thereof vary accordingly. The great artist and scholar, Sir Joshua Reynolds, held that excellence is never granted to a man but as the reward for labor; he said: "If you have great talents industry will improve them. If you have moderate abilities industry will supply their deficiencies." Nothing is denied to well-directed labor, nothing is to be obtained without it. The greatest achievements of many eminent men have depended upon their thorough appreciation of this truth. In Dyci's spelling book, printed nearly 200 years ago, is found these lines:

> "Despair of nothing that you would attain,
> Unwearied diligence your point will gain."

A wise old rhyme; to which, let me add, put some enthusiasm into the repeated efforts. Listless or half-hearted endeavors will seldom relieve disasters. One thing that is cultivated here among you cadets is of great value to its possessor; it is what men commonly call "pluck." Its lessons are not generally found in the books nor taught by the professors. You need not be told how they are learned, you give yourself

those lessons. The football incident of Annapolis last fall shows how well they may be learned. "Up, boys, and at them again," from the lips of a corporal at a critical moment, won an important battle during the late civil war. Frequently, when the day has seemed lost, the rallying spirit of some single soldier has turned defeat into victory. In the battle of life success often lingers long and yields at last only after many struggles. Our own Washington lost more battles than he won at the head of the Continental armies; but he organized victory out of defeat and triumphed in the end. Let me recall to you the story of the French soldier whom Napoleon wished to make an officer because of his heroic and gallant deeds, but who declined the offered promotion, saying he preferred to be the first soldier of France. So the great general named him, "the first grenadier of France." You remember that for years after his death it was the custom to call his name with the roll of his company, and for the oldest veteran in the ranks to step forward and answer, "died upon the field of honor." Why was he thus honored? Because he had set such an excellent example of courageous and honest performance of individual duty, accompanied by the greatest self-denial. Upon occasion all good soldiers must be brave, but bravery alone is not sufficient qualification for the best soldiers. Fidelity and self-denying devotion to duty controlled the soul of the "first grenadier of France." He hesitated not to consider any consequences to himself. His heart and mind were full of the cause for which he had enlisted. His conduct indicated sublime faith in his ability, in his own way to render the most valuable services to his country.

The true soldier never shirks his duties nor shrinks from difficulties. He meets dangers boldly and strives to do his appointed work to the best of his ability. The greater his peril the stronger his pluck; with a deep sense of responsibility, his determination and resultant energy sometimes stays the hand of death itself. Sometimes the enthusiasm of success is just as potent; but there is pluck also.

At Ratisbon a young adjutant came galloping out from the battery smoke and rode a mile away to where Napoleon stood to bring him the first message of victory. The boy-soldier reached his general, dismounted, and with the flush of joy upon his countenance gave him the good news. Napoleon at a glance saw that the adjutant was all but shot in two, and softly said to him, "You're wounded." Still smiling, the boy replied, "I am killed, sire." And so he was.

He had received the fatal wound many minutes before, nearly a mile away, but would not die until he had obeyed his orders and delivered his glorious message. A different phase of this trait is shown in the story told of a Russian soldier.

When the Winter Palace was burning, a priest, who had rushed into the interior to rescue the pyx, ran across a sentry, whom he urged to flee for his life. "No, this is my post," he replied, "give me your blessing." This the priest did, then struggled through the smoke to safety. The soldier was never heard of again. This death may not be thought so heroic as the other. It was, nevertheless, a simple sacrifice of life to a sense of duty. In this land we do not expect such stolid obedience and unquestioning submission to authority. Before the assault of Warsaw two Russian grenadiers were standing at their post looking upon the fortifications before them. The one, a recruit, asked the other, an old soldier—pointing to the Polish defenses: "What think you, brother, shall we be able to take those works?" "I think not," replied the old warrior, "they are very strong." "Aye, but suppose we are ordered to take them?" questioned the recruit. "That is another question," said the veteran; "if it is ordered, we will take them."

With the veteran what seemed an impossibility might become a duty, and then it should be accomplished. Those who give themselves orders to achieve certain things in life and firmly rely upon their ability to do so are the ones who succeed. A man's ambition may be for higher things than his capability should warrant him in aspiring to. That is no serious fault. Those who do not hope for promotion are

not likely to prepare themselves to reach it or to worthily fill the advanced position if perchance it should come to them.

> "The wise and active conquer difficulties
> By daring to attempt them; sloth and folly
> Shiver and shrink at sight of toil and hazard
> And make the impossibility they fear."

A few thoughts here suggested by Gen. Agnus, president of the Board of Visitors, who has himself seen active service in the Army of our country during the late war. As you receive the smiles of approval, and the hand shake of godspeed from those who have come hither to join in the plaudits you have won, remember that a new era now opens before you. You have been under the strict discipline of official superiors, are about to become yourselves the commanders of men, and of American soldiers at that. In some semibarbaric countries that title has a significance entirely foreign to the American idea. There, commanders are oppressors of their inferiors in rank. But educated as you have been carefully and efficiently and with the experience of four years of soldier life, you have doubtless learned what treatment should be given those who may come under your authority. But let me remind you again that the first thought of a good officer is for the welfare of the men whom he leads. He will not expose them unnecessarily to danger or hardships that can be avoided. An officer can be a strict disciplinarian, yet neither cruel nor unjust to his men. He will share with them the fatigues of their marches, the privations of their camps, and the dangers of their conflicts in such a way as to win their hearts forever. Then, when the strain of approaching battle is upon him, he may appeal to his troops as did the illustrious Prince of Navarre, who, pointing to his helmet, thus electrified his men: "See you this plume! When it advances follow me. If it fall, avenge me, but if in turn it retreat, shoot me!"

> "And in they burst, and on they rushed
> While like a guiding star,
> Amid the thickest carnage, blazed
> The helmet of Navarre."

And further, young soldiers of the Republic, before you close your present relation with this institution, recall the patriotic associations that cluster around, that you may go forth deeply imbued with the spirit of the place.

Recall that here was established by your colonial forefathers, in their struggle to be free, one of the earliest fortifications of the Highlands; that within full view of this plain are the hills and the island whereon they erected their forts and redoubts and planted their batteries, manned by the minutemen, to defend this valley against the invader; that upon your very grounds these patriots once fought a brave and gallant battle against overwhelming numbers. Here Kosciuszko labored as an engineer, and later Washington himself, as Commander-in-Chief of the Continental Armies, made his headquarters. This spot was virtually selected over a hundred years ago for a Military Academy of the Army, grounded on the permanent establishment for our frontier posts. You must take pride in the fact that the origination of this Academy was cherished by the Father of our Country. He and his compatriots, appreciating the military necessities of the times, labored zealously in your behalf. In your daily life you have come in contact with many things to stir your souls with patriotic ardor. The trophies of foreign wars brought home by your predecessors, the standards and the guns their valor won, the memorial tablets in their honor, monuments and even the unmarked graves in yonder cemetery have deeply impressed their lessons on your hearts.

Academic descendants of a long line of illustrious soldiers and patriots: Ere you cease to tread this sacred field, again resolve that you will ever maintain, even with your life, the honor of your country and the honor of the Class of '92. Like the Spartan mother, your Alma Mater expects you to bring home to her your shield untarnished, or be brought back upon it.

THE SECRETARY OF WAR.

Then the Secretary of War, before presenting diplomas, spoke as follows:

GENTLEMEN OF THE GRADUATING CLASS: You are soon to be officers of the Army of the United States, an organization whose past is full of glory, and the aspiration and ambition of whose members should be to reach perfection in human organization. Washington was its first commander-in-chief, Grant its greatest general. One helped to found, the other helped to save, the Republic. In a hundred years there have been nineteen Presidents of the United States elected by the people, nine of whom were generals in the Army. The Army stood by the cradle of the Republic and nursed into existence the best attempt at free government the world has yet seen. When threatened with division and destruction it came to the rescue and saved the Republic which it had done so much to establish. During a century it has defended the honor of the nation in four wars. At times it has been the largest organized army known to the world, and during its period of greatest success was commanded by a general educated at West Point.

The Army is a delicate machine; to make it what it is to-day we have drawn on the military usages and science of war of all the ages. It needs to be well understood to be managed in whole or in part. Change is not reform, and any reform attempted in the Army should be long and carefully considered. The Army, however, is not a perfect organization; to claim this would be to discount the centuries and leave you and those who come after you without the incentive to do something better than those who have gone before you.

In entering the Army you turn your back on the chances and opportunities civil life offers to win a great fortune; but you at once secure for yourself an independence and high social position, as also relief from the uncertainties, anxieties, and doubts that too often follow a business career. While you can not hope to become millionaires in your profession, you have taken a bond of fate against ever being dependent. Your life in the Army should begin a life of study and improvement, and your aim and best ambition should be to make the Army better and more efficient than you found it.

In the great Republic it is hoped and believed we are making substantial progress toward permanent peace, but this is not assured. Our Indian wars, which have begun with the landing of the Pilgrims, are about at an end. The frontier that has gradually grown less as civilization has marched westward, no longer exists; it is gone forever. There is now no frontier in the United States except that contiguous to foreign territory. Apart from foreign war the Army promises by its mere presence to be one of the guarantees of peace and order throughout the nation. The future would seem to hold within it no such hardships for you as those who have gone before you endured, but it is within the possibilities greater ones may come to you. You may be called upon to bear the flag of your country and to do duty within the tropics and nearer the polar regions than any of your predecessors.

The flag floats over territory of the United States further west of San Francisco than San Francisco is west of New York, and farther north of San Francisco than San Francisco is from Florida. The control of the waterway across the isthmus, that is soon to marry the two great oceans and open up a new and shorter highway for the commerce between the two coasts of America and Europe and the far East, holds within it unsettled questions.

West Point Military Academy, beautiful in all its surroundings and interesting in all its traditions and history, in nearing the end of its first hundred years of existence, points with pride to its record and the great things it has done. It has helped to make great men who have made glorious history. It has enduring claims upon the gratitude of the Republic.

GENERAL SCHOFIELD'S CLOSING WORDS.

Gen. Schofield then addressed the graduating class and said:

GENTLEMEN OF THE GRADUATING CLASS: You have now laid a broad and solid foundation for your military education and for honorable career. Above all, you have passed the prescribed test of your capacity to learn and to make useful application of knowledge. You have sustained the trying ordeal of discipline, by which you have learned to subordinate the will of the individual to that of authority, which subordination is indispensable, even in civil life and much more in the military, to the well-being of every organized society. Your future task will be a comparatively easy and congenial one—that of building upon this foundation a structure growing more complete, more harmonious, more worthy of honor as time advances, and destined, under favorable fortune, to make your lives a blessing to yourselves, to those who are dear to you, and to your country.

CONCLUSION.

One of the last acts of Washington's life was to write a letter to Maj. Gen. Alexander Hamilton, commending his suggestion of the wisdom of establishing the United States Military Academy.

"The establishment of an institution of this kind upon a representative and extensive basis," Washington wrote two days before his death, "has ever been considered by me as an object of primary importance to the Government."

Never was the farsightedness of these great men more splendidly shown than in the real results from the institution which they projected and which is without question the best military school in the world. It is impossible to overestimate the value of the Academy. For ninety years it has been a great and increasing benefit to the Government and the people. It has given to the country some of its most brilliant and most useful men and its influence in all directions has constantly grown. Of course the Academy has not and can not create manhood, but it has trained and developed it to its highest expressions of courage and character. We doubt if there is anywhere a more complete training of the youth than is to be found in its course. It is elevating and is admirably comprehensive. It is physical, moral, and mental, and it brings out all of good in the young man who takes it. It teaches him duty, firmness, kindness, patience, justice; it gives him confidence and self-reliance; it promotes industry and application; it instills into him thoroughly the lessons of discipline, and adds to this the needs of courtesy without which discipline loses much of its moral force. The great fact about it, too, is that this education does not, as in many European institutions, widen the distance between the new officers and the men. There is the close touch of sympathy that makes our Army, small as it is, one of the strongest in the world. The Academy is the broad and democratic school which educates the men who make this condition possible.

And it does more than that. Many of its graduates have taken rank among the best and strongest factors of our scientific and industrial life. The work of the Academy has helped to develop the entire country in a material way, and a full record of its usefulness would be a large part of the history and progress of the Union. The more we study its past and investigate its present, the more are we convinced that it is worth many times over what the Government pays for its maintenance.

As the leading military school of the country, therefore, Congress should deal with it generously. There should be no petty economies in its appropriations, for every dollar is usefully and honestly expended for the benefit of the country and of the people. The cost of its support compared with its results is small, and the sum could easily be increased. We would emphasize the need of the Government's liberality in order that the high standard now attained should be kept up and advanced. There is no standstill in educational work; it is continuous progress and it demands enlarged expenditure and constant change in the courses of study. The Academy is no exception to this rule. The suggestion has been made that one professor be ordered every year to investigate the methods of civil and military schools, both at home and abroad, with a view to introducing the best ideas into his own department. During his absence his place could be filled by the assistant. This plan would give a rotation of progressive improvement without crippling the course of the Academy. It would enable the Academy more successfully than ever to combine the best methods of Europe with those of America and keep its place at the forefront of military education.

The suggestion has also been made that in the future the Board of Visitors reach West Point by May 20, so that they may have a longer time for their investigation. We believe this suggestion to be wise. Twenty days can easily be spent in examining into the workings of the institution. It is a school that bears and invites the most searching inquiry. We wish to testify cordially to the admirable management of the Academy as we found it. Everywhere we observe order and neatness and efficiency, and we give it as our conviction that the institution has never been on a higher plane of real usefulness to the country and to the young men whom the country is educating for its future commanders.

The loyal enthusiasm which is intertwined with the history of this great school surrounds its name with patriotic memories. From West Point have come many of our greatest soldiers. From West Point have come hundreds of as brave and able officers as ever lived. From West Point have come and are coming the men to organize the manhood of the nation into regiments and armies if ever danger threatens war. Great as has been the usefulness of the Academy, its value was

never more real than now, and its fortunes in these piping times of peace should be generously guarded by a liberal Government and an appreciative people.

FELIX AGNUS, *President.*
JOHN W. LINDSEY, *Vice-President.*
LUCIUS FAIRCHILD.
A. J. CASSATT.
SAMUEL DALTON.
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JOHN A. T. HULL.
ALFRED M. OGLE, *Secretary.*

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